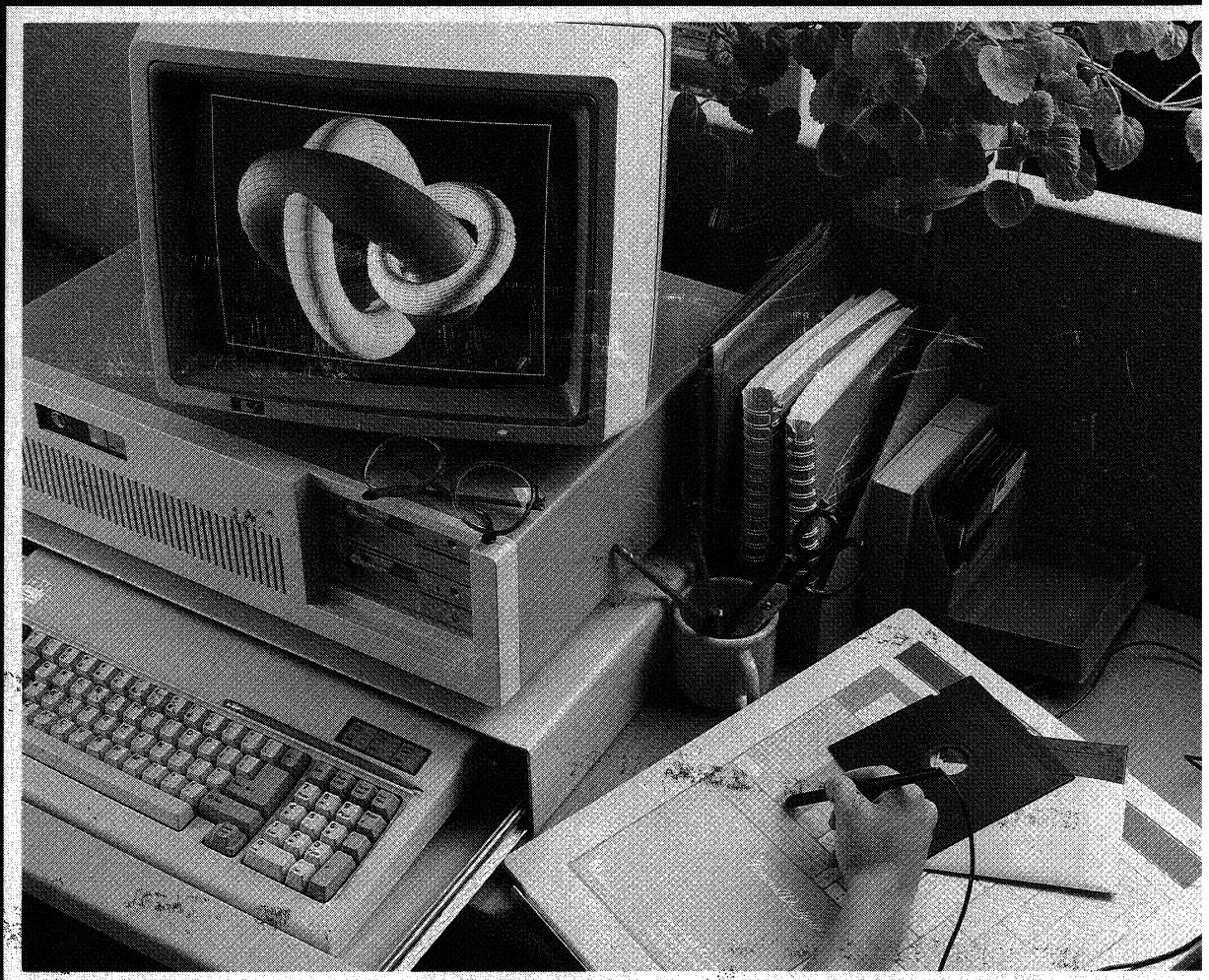


# JCCC

Johnson  
County  
Community  
College



**Catalog of Courses  
and General Information**

**1987-1988**

# JCCC

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Johnson  
County  
Community  
College



# PROFILE OF JCCC

## MODERN PIONEERS

In 1967, a pioneering "can-do" attitude figured prominently in the founding of Johnson County Community College when a couple of people identified a need over a Saturday-morning cup of coffee. Now, 20 years later, JCCC has responded to that need so well it has become the centerpiece of a dynamic economic and cultural expansion in Johnson County.

JCCC has become an educational leader because its people find solutions – for traditional students, for business and for the community at large. JCCC is new enough to respond to change, but mature enough to distinguish between long-term growth and short-term fads.

## UP CLOSE

JCCC is a comprehensive two-year community college that attracts students of all ages, economic and ethnic backgrounds. It is the fourth largest institution of higher education in Kansas, enrolling 18,500 students a semester in credit and non-credit courses and events.

JCCC began as an idea, but it soon became a reality. Before today's 220-acre campus was built, JCCC held classes in several rented buildings in Merriam and northeast Johnson County. By 1972, six buildings had been completed. Since then, two buildings have been added, a third is under construction and another is being planned. JCCC is now the largest community college of the 19 in Kansas. It is the center of the county – geographically and educationally.

## IN SESSION

Credit Classes are scheduled on a semester and summer basis. Fall classes begin in late August and end in December. Spring classes resume in late January and continue through mid-May. Four-week and eight-week sessions are scheduled during June and July. Check the latest bulletins for current information, or call 469-8500.

## SIMPLE ENTRY

Anyone 18 years of age or older or anyone with a high school diploma or its equivalent who meets admission guidelines may enroll at JCCC for credit courses. Continuing Education courses, or those offered for no credit, are available to everyone in the area.

## MODEST COSTS

JCCC's tuition costs are among the most affordable in the metropolitan area and are significantly less than those at four-year schools.

Kansas residents . . . . . \$24.50 per credit hour;  
Out-of-state . . . . . \$85.00 per credit hour;  
Foreign students . . . . . \$85.00 per credit hour.

## FREE PARKING

Ample free parking encircles the campus. You're never far from where you need to be at JCCC. This convenience is just a small example of the College's commitment to provide access to the entire community.

## STUDENT HOUSING

JCCC is a non-residential campus. However, an agreement with an apartment complex near the campus provides discount rental rates for JCCC students. The Student Activities office also assists students in finding suitable housing and roommates through a campus referral system.



## A HEALTHY MIX

People from the very young to the young at heart attend JCCC. This mixture – a reflection of the community – makes JCCC an interesting place to learn. About a third of its students earn associate's degrees during the first two years after graduating from high school. The rest usually have some college experience before enrolling at JCCC. All have something in common: they choose JCCC because it fits their career needs, lifestyle and educational goals.

## HIGH MARKS

Students say again and again that they like JCCC because it is close to home, because they can attend school and work, because tuition is low, because they know that courses will transfer and because of JCCC's gifted faculty. They find exceptional success at colleges and universities when they transfer.

## GOVERNANCE

JCCC is governed by a six-member Board of Trustees elected at-large from the county. Current Board members are: Robert Fry, Jean Hunter, Molly Baumgardner, Hugh Speer, John "Jack" Cramer and Virginia Krebs. Students, faculty and staff participate in decision-making through an extensive committee system.

## CLASSROOM MAESTROS

Talk to students about JCCC faculty members. They will confirm the commitment to high-quality instruction and personal attention. Class sizes are small, averaging 30 or fewer students. The normal faculty member teaches 15 hours a semester. Nearly all JCCC teachers have master's degrees and extensive teaching experience – often, 15 or more years. And increasing numbers earn doctoral degrees.

Ask the faculty members themselves about teaching support at JCCC, and they will affirm that teaching is a number-one priority. Instructors spend their time teaching, and they like it that way.

## THE CAMPUS

Actually, it isn't so little anymore. The college campus consists of eight major buildings on 220 acres of rolling prairie grasslands. Modern architecture and extensive use of red brick immediately identify the college complex. But a college is much more than bricks and mortar. Inside, students have access to state-of-the-art equipment in many disciplines. JCCC works hard to stay on the cutting edge of advancements in the workplace, which is yet another reason that employers say that JCCC students are well prepared.

The College also offers commodious social space. The College Commons building houses food services, student activities areas and other special services that enable students to become involved or to unwind from academic rigors.

## THE CURRICULA

JCCC offers an array of educational options to answer all kinds of need. Basically, they fall into the following categories:

### Transfer Programs

Many students want to earn a degree before transferring to another college or university. JCCC offers three two-year degree options: the Associate of Arts, the Associate of Science, and the Associate of Applied Science.

Most courses transfer easily. In fact, JCCC has more than 100 specific transfer agreements with area colleges

and universities. Transfer students can begin preparing for careers in fields such as agriculture, business, education, engineering, home economics, liberal arts, medicine and health, social science and science and math at JCCC.

### Career Programs

At least a third of the students enrolled in one of the 43 career and certificate programs seek to enhance their skills so that they can advance in their jobs. Career programs can be completed within two years, and some students choose to pursue four-year degrees when they complete them. Courses of study range from accounting to radiologic technology, from hospitality management to automotive technology, from equine studies to fashion merchandising to nursing, with a lot of stops in between.

### College Credit Options for High School Students

High school students who want to earn JCCC credit may do so. Understandably, there are some restrictions. High school counselors or JCCC's Director of Admissions and Records have details on this program.

### Lifelong Learning

For the adult learner, JCCC offers more than 400 short-term courses, seminars and workshops each year. Most of these earn no college credit, although some do carry Continuing Education Units (CEUs) for professionals who want to upgrade skills and knowledge in a particular discipline.

For adults, the GED program includes classes to help students prepare for the GED exams. Other basic programs include classes in reading, writing and arithmetic for those who want to improve their skills, as well as in English as a Second Language for people with a limited command of English.



## QUESTIONS, QUESTIONS

A professional counseling staff stands ready to assist in many areas. Whether the need is for information on careers or academic programs, transfer, career guidance and exploration, or for help in solving social or personal problems, a trained group of professionals is willing to help.

The Testing/Assessment Center, the Career Planning and Placement Center and other service centers help students develop direction and basic skills in reading, vocabulary, writing, math and languages. Support services for the disabled include interpreting, notetaking, tutoring, taped textbooks as well as an accessible campus. There is even a licensed child-play center, for parents who also are students, and a Dental Hygiene Clinic.

## WE GIVE BACK

JCCC relies on Johnson County for tax support and for students. But Johnson County relies on JCCC to serve all segments of the population. Our Business and Industry Institute does just that. It offers training with short-term courses, seminars and credit classes taught at the business site so that employees can "learn on the job." It provides on-campus courses and programs designed to fit specific needs and goals, professional seminars and a range of special resources including consultants, demonstrations and training needs assessment.



## THE SPORTING LIFE

JCCC supports a full slate of intramural athletic programs for students and staff. In addition, the College sponsors 12 varsity sports for men and women. Women compete in tennis, volleyball, golf, basketball, softball, track and cross-country. Men compete in baseball, tennis, basketball, golf, soccer, track and cross-country.

JCCC is a member of the National Junior College Athletic Association and the Kansas Jayhawk Conference. Students and staff may use JCCC's modern gym, weight room, tennis courts, jogging track and par course.

## STUDENT FINANCIAL SERVICES

JCCC's Student Financial Services works to meet the financial needs of all qualified students. Many grants and loans are available, although the College offers no tuition waivers, book waivers or partial payment plans. Still, some 500 students share \$150,000 in stipends, scholarships or private grants each year. An additional \$1.3 million is available through Federal grants, work-study programs and loans.

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## QUICK ANSWERS

For specific information on admission procedures, course descriptions or programs, stop by the Admissions & Records Office in 151 GEB, or write: Admissions & Records, JCCC, 12345 College at Quivira, Overland Park, Kan. 66210-1299.

## AT THE CENTER

Johnson Countians of all ages, backgrounds and abilities have learned that JCCC is an important and valuable resource. In fact, any way you look at it, JCCC is a good value – it's accessible, affordable, comprehensive and respected. It's also responsive to your needs, which makes everything else possible.

## WE LISTEN

If you, your business or your employer have special needs for education or work force training, call us at JCCC. We'll listen and help you with your needs.

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



## NOTICE OF NON-DISCRIMINATION

Johnson County Community College is committed to a policy of non-discrimination involving equal access to education and employment opportunity to all regardless of sex, race, age, religion, color, national origin, or handicap. The administration further extends its commitment to fulfilling and implementing the Federal and State laws and regulations as specified in Title IX and Section 504 of the Rehabilitation Act. For assistance in these areas contact Dr. Glen E. Gabert, Johnson County Community College, 12345 College at Quivira, Overland Park, Kansas 66210-1299, (913) 469-8500, or The Director, Office of Civil Rights, HHS, Washington, DC 20201.

## ACCREDITATION

Johnson County Community College is officially accredited by the North Central Association of Colleges and Schools. In addition, individual programs are accredited by associated professional organizations: Dental Hygiene – American Dental Hygienists Association and American Dental Association; Nursing program – State Board of Nursing; National League for Nursing; Paralegal Program – American Bar Association; Respiratory Therapy – American Medical Association and American Association of Respiratory Therapists; Basic Police Academy – University of Kansas.

## This catalog becomes effective July 1, 1987.

This catalog is for information only and does not constitute a contract. The College reserves the right to change, modify or alter without notice all fees, charges, tuition, expenses and costs of any kind and further reserves the right to add or delete without notice any course offering or information contained in the catalog.

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## **MISSION OF JOHNSON COUNTY COMMUNITY COLLEGE**

Johnson County Community College is a comprehensive community college committed to serving the needs of the residents of Johnson County for higher education and lifelong learning. The college seeks to provide educational leadership while responding to the identified needs of the community by providing quality educational programs that are accessible to all who can benefit from them. These educational programs and services include, but are not limited to the following:

providing credit courses and associate degree programs to prepare students to transfer to four-year colleges and universities and earn bachelor's degrees;

providing credit courses and certificate and associate degree programs to prepare students for immediate employment and retraining in career positions;

providing instructional programs containing a strong general educational component for the personal development of students;

providing non-credit courses and programs, such as conferences, seminars, lectures, workshops and other activities to meet the continuing education, professional and enrichment needs of members of the community;

providing educational and support services to business and industry in the county, including skills training, seminars, cooperative education programs, and technical and consulting services to meet commercial work force requirements and to promote the county's economical development;

providing support services, including counseling, career planning, job placement, testing, financial aid, academic advisement, basic skills development and remediation to assist students in benefitting from academic programs;

providing college credit and non-credit instructional programs and support services to meet the needs of special clientele, including mentally and physically handicapped, gifted, talented, senior citizens, non-high school graduates, high school students and college graduates;

sponsoring student activities to complement the academic program;

providing instructional programs, facilities, human resources and information services to local agencies, businesses, individuals and groups in the community;

initiating programs and activities to develop audiences for cultural activities and providing facilities and services to support community cultural activities, including the fine and performing arts;

providing educational leadership for collaborative efforts among the college, local school districts, state universities and other educational institutions to meet the educational needs of county residents; and

providing support and leadership to various local, state and national organizations to assist in the promotion and development of the community college movement.



## MESSAGE FROM THE PRESIDENT

Dear Friends,

As we at Johnson County Community College look toward the new academic year, we face some of the most encouraging prospects in our 18-year history. Enrollment continues to rise, the county continues to prosper and our faculty and staff continue to earn national acclaim for their innovative work. As welcome as this news is, however, we have even greater reason for excitement this year. For within the next six months, the College will begin to reap the rewards of much hard work on facility planning done over the last two years.

The JCCC campus of the 1990s will be markedly different from the current campus. To be sure, the same red brick buildings will remain, and the rolling prairie landscape will continue to serve as our front yard. But there are new buildings on our horizon, buildings that will enable us to serve the county in increasingly sophisticated ways. When our current phase of campus construction is completed, we'll be looking at the 21st century through a new window.

We have been looking so intently to the future the last two years because we are in a relative position of strength and stability. By planning while we are strong, we prevent having to react to unforeseen circumstances. This way we manage our growth, it doesn't manage us.

Here are some of the exciting things you'll see on the JCCC campus in the next five to six years.

- A new Industrial Technical Center. Work on this 47,000-square-foot facility began in the spring of 1987 and should be completed by January, 1988. This new facility is a joint venture between JCCC and Burlington Northern Railroad, the nation's largest railroad.

The ITC will be BN's national training center. It will offer one- or two-week training sessions for more than 2,000 BN employees annually in fields such as engineering, electronics, metal fabrication and signal maintenance.

The ITC also will provide JCCC with badly needed classroom space and room for program growth in technology-related fields and in general education subjects. It also will include new office and warehouse space.

The ITC will be paid for two-thirds by BN and a third

by JCCC. The building was financed under an innovative arrangement with the City of Overland Park, which issued industrial revenue bonds. At the end of 10 years, the ITC will be deeded to the College.

The ITC is an excellent example of how business, education and government can work together to create new opportunities for each other now and in the future. Mayor Ed Eilert of Overland Park has called it a "win, win, win situation."

- A new Cultural Education Center. In the spring of 1987 the College hired an architect to begin design of a facility that will provide Johnson County a comprehensive performing arts complex, and that should meet growth requirements at JCCC into the next century.

The CEC will contain a 1,000-seat performing hall for concerts, dance and opera. It will have a fully equipped 400-seat theater, an experimental, black-box theater, gallery space, special conference rooms for community education activities and additional office and classroom space.

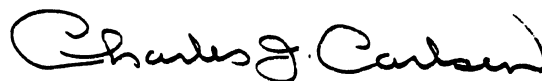
This new building also will serve as the College's front door to the community, a drop-off point for visitors and guests and an information center. This is the most far-reaching building program the College has undertaken thus far in its history. By 1990 it will be a reality.

- A new Central County Library. The College has donated land to the county for construction of a new central county library on the JCCC campus. The library will be the first truly comprehensive public library in the Kansas City area. It is a long-overdue addition in a county noted for its emphasis on excellence in public education.

You will be hearing more about the new library as planning proceeds under direction of the County Library Board. We hope it is built on the campus by the early 1990s.

In the meantime, keep your eye on our skyline. Our change and growth as an institution signals your coming of age as a county and a community.

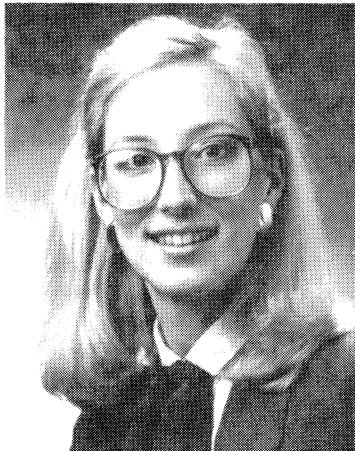
Sincerely,



Charles J. Carlsen, President

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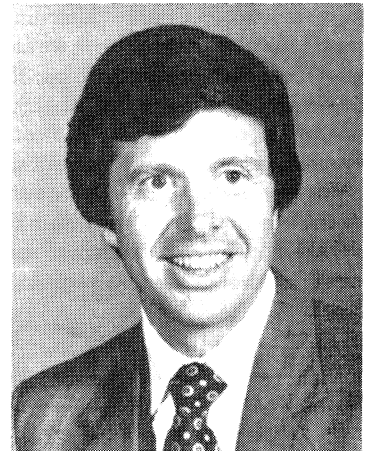
# BOARD OF TRUSTEES



Molly Baumgardner



John "Jack" Cramer



Dr. Robert Fry



Jean Hunter



Virginia Krebs



Dr. Hugh Speer



## ACADEMIC CALENDAR

Please check your class schedule each semester as dates listed are subject to change.

### Summer Session 1987

- June 8 Eight-week summer session and first four-week session classes begin.
- July 2 First four-week session ends.
- July 3 Independence Day holiday. Classes not in session. College offices closed.
- July 6 Second four-week session begins.
- July 30 Eight-week summer session and second four-week session end.

### Fall Semester 1987

- Aug. 20 Fall semester begins. First day of credit classes.
- Sept. 7 Labor Day. Classes not in session. College offices closed.
- Nov. 26-27 Thanksgiving holiday. Credit classes not in session. College offices closed.
- Dec. 14 Last day to withdraw from 16-week class and receive a "W"
- Dec. 15-18 Final Exams.
- Dec. 21 Last day of fall semester classes.
- Dec. 24-Jan. 1 Christmas and New Year's holiday. College offices closed.

Note: Saturday credit classes begin August 22 and end December 12. Saturday classes will not meet on November 28.

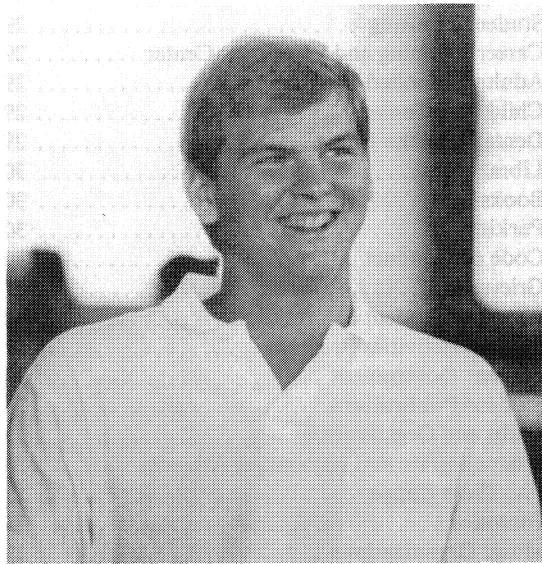
### Spring Semester 1988

- Jan. 18 Spring Semester begins. First day of credit classes.
- Feb. 15 President's Day holiday. Classes not in session. College offices closed.
- Mar. 14-19 Spring break. Credit classes not in session. College offices open.
- May 16 Last day to withdraw from a 16-week class and receive a "W"
- May 17-20 Final exams.
- May 20 Commencement.
- May 23 Last day of spring semester.
- May 30 Memorial Day. Classes not in session. College offices closed.

Note: Saturday credit classes begin on January 23 and end on May 14. Saturday credit classes will not meet on March 19.

### Summer Session 1988

- June 6 Eight-week summer session and first four-week session classes begin.
- June 30 First four-week session ends.
- July 4 Independence Day holiday. Classes not in session. College offices closed.
- July 5 Second four-week session begins.
- July 28 Eight-week summer session and second four-week session end.



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# ADMISSIONS



## **Admissions Policy**

### **Admission Procedures - Credit**

*New Students*

*Former Students*

### **Admission Procedures - Non-credit**

#### **Special Student Admission**

*Foreign Students*

*Resident Aliens*

*College NOW*

*Brown and Gold*

## **Programs With**

### **Selective Admissions**

*Nursing*

*Articulation by Licensed Practical Nurses*

*Dental Hygiene*

*Mobile Intensive Care Technician*



## ADMISSIONS POLICY

Any person seeking regular admission to Johnson County Community College must meet one of the following requirements: be a high school graduate; passed the GED exam; or reached the age of 18 and demonstrated the ability to benefit through the student assessment process.

Individuals may be admitted with special student status as defined below:

- a) Persons under the age of 18 who have not received a high school diploma; students who are currently enrolled in high school and have completed at least 15 units of credits; or students who are enrolled in a Gifted Program may obtain special student status and be admitted to JCCC with written authorization from their high school.
- b) Persons 18 or over who do not have a high school diploma or GED certificate, have not completed the student assessment process, and are not degree seeking may be admitted with special student status.

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

The College reserves the right to deny admission or readmission to any individual considered detrimental to the best interest of the College community and when the College is unable to provide the services, courses or program needed to assist a student to meet his/her educational objectives.

## ADMISSION PROCEDURES — CREDIT

### New Students

To apply for admission at JCCC for the first time, follow these steps:

1. Complete an application form and return it to the Admissions & Records Office. Application forms are available in the Admissions & Records Office.
2. Provide high school transcripts. Students are responsible for contacting their high schools and requesting to have a transcript sent directly to the JCCC Admissions & Records Office. Persons who have been out of high school for five years or more need not submit their transcripts.
3. Provide college transcripts. Individuals transferring to JCCC from another college must have the previous institution or institutions mail transcripts directly to the JCCC Admissions & Records Office. Individuals' transcript records at JCCC will be withheld if transcripts are not submitted.

4. Determine residency. Kansas law requires individuals to live in the state six months prior to the first day of the term or session. Non-residents at JCCC must pay out-of-state tuition and fees. Address changes that will result in a change to Kansas residency will require validation through a Residency Appeal. See the Director of Admissions & Records for details.
5. Provide the American College Testing (ACT) scores. Students are encouraged — but not required — to submit ACT scores unless entering the Nursing or Dental Hygiene career programs. ACT scores must be submitted by February 1 for Nursing and Dental Hygiene students. If planning to submit scores, take the ACT test as early as possible and request that scores be sent to JCCC.

### Former Students

Students who have previously attended JCCC must refile an application for admission with the Admissions Office. Official transcripts of all college credits earned since last attending JCCC must be provided.

## ADMISSION PROCEDURES — NON-CREDIT

Admission to non-credit classes is usually open to any person eighteen years of age or over. Any exception to this age restriction will be stipulated in college publications.

## SPECIAL STUDENT ADMISSION

### Foreign Students

Foreign students must meet all College admissions policies for credit courses. In addition, all foreign students will submit to the Director of Admissions & Records a completed foreign student application packet. A foreign student is defined as anyone who is not a resident alien or a citizen of the United States. To be considered for admission, foreign students must provide test scores from the Test of English as a Foreign Language (TOEFL) examination. Minimum acceptable score for admission on the TOEFL exam is 500. All foreign students will provide verification of their ability to pay all tuition, fees and other supporting costs. Foreign students who are entering the United States for the first time must have a local sponsor before admission to the College is granted. All application materials must be forwarded to the Admissions & Records Office by June 1 for the fall semester; October 1 for the spring semester; and March 1 for the summer session. Foreign students will not be eligible to apply for institutional-

based financial aid from the College until they have satisfactorily completed one semester of credit courses.

Foreign students wishing to transfer to JCCC from other U.S. colleges or universities must have all the required materials submitted to the Admissions & Records Office one month prior to the beginning of the term or session. In addition, foreign students who transfer to JCCC must have a 2.0 (C) cumulative grade point average for all previous college level work attempted, be in current status with Immigration and Naturalization Service, and submit a letter of reference from the Dean of Students at each institution previously attended.

All foreign students must enroll in and satisfactorily complete a minimum of 12 credit hours, follow College rules and regulations, and comply with all U.S. Department of Immigration and Naturalization Services policies.

#### **Resident Aliens**

Resident aliens must meet all College admissions policies. In addition, they must provide the Resident Alien Registration Number issued to them by the U.S. Department of Immigration and Naturalization Service, and meet with a counselor to determine proper course placement. Prior to enrollment in any College credit classes, the resident alien must complete the JCCC assessment battery which includes an assessment of English language proficiency. Based upon assessment test scores, enrollment may be limited to a specified number of credit hours and/or enrollment in specific English language courses may be required.

#### **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:

- A. College NOW – for high school students enrolled in honors classes for which college credit equivalency has been established. Instruction is provided on the high school campuses. High school transcripts are **not** required at the time of enrollment. However, approval from high school principal or counselor is necessary. A schedule of College NOW classes will be available early each semester at participating high schools.
- B. Quick Step – for high school students who have earned at least 15 units. Instruction is provided by JCCC faculty on the college campus. Students must provide high school transcripts at the time of

enrollment and get approval from their principal or counselor to take college classes. A complete list of classes may be found each semester in JCCC's "Credit Class Schedule."

If you want more information about these college credit class options, see your high school counselor or call JCCC's Admissions & Records Office.

#### **Brown and Gold Club**

Persons who have lived in Johnson County for six months prior to enrollment and are 60 years of age or older are eligible for membership in the Brown and Gold Club.

Registration for members is tuition-free in most credit and community education courses on a space-available basis, although Brown and Gold Club members may be charged the full or reduced rates for some courses and special events. Most classes and activities have a required minimum paid enrollment which must be met before Brown and Gold Club members are enrolled. There may be charges for textbooks, course materials, food service, and transportation. Some credit classes may have fees in addition to tuition.

#### **Other Special Students**

Persons 18 or over who do not have a high school diploma or GED certificate, and have not completed the student assessment process are admitted as special students. Individuals in this category are considered non-degree or post-secondary certificate seeking students. The admission status may be changed to that of a regular student by completing the student assessment process. For additional information contact the Director of Admissions and Records.

## **PROGRAMS WITH SELECTIVE ADMISSIONS**

### **Nursing**

The College selects a maximum of 55 individuals for admission to the Nursing Program each year. New students entering the program will begin their clinical courses only during the fall semester. Applications for admission to the program must be submitted to the Admissions & Records Office on or before February 1 of each year for consideration for the following fall. All applicants must submit a high school transcript, all transcripts of previous college credit and results of the American College Test (ACT) by February 1, in order to be guaranteed consideration. All applicants who meet the minimum academic standards will be scheduled for two personal interviews.

Prior to May 15 final selection will be made based on the ranking of applicants with the interview results, the academic criteria and residency status contributing to the process. Non-residents of Johnson County will not be admitted to the program until all Johnson County residents have been considered. Those applicants ranking high enough for acceptance will be given ten days to accept or deny their positions. All applicants who accept their positions in the program will be required to pay a \$125 tuition deposit. Deposits will be refunded if students notify the Admissions & Records Office in writing of his/her intention not to accept his/her position in the class on or before June 1. No refunds will be made after June 1.

After May 15, all remaining qualified applicants will be reranked for admission to the program without regard to residency. Students accepting a position in the program after June 1 will be required to submit a non-refundable \$125 tuition deposit.

#### **Articulation by Licensed Practical Nurses**

The College will provide the mechanism for articulation by Licensed Practical Nurses into the Associate Degree Program. Advanced standing credit may be granted to qualified applicants based upon successful completion of challenge examinations for first year nursing courses. The challenge process includes assessment of both theoretical and clinical performance. Applications for admission to the program must be submitted to the Admissions & Records Office on or before January 15 of each year to be guaranteed consideration for the following fall. Specific requirements for admission to this program are described in the "Information Packet for Admission with Advanced Standing for the Licensed Practical Nurse" which is available in the Admissions & Records Office. Applicants must have successfully completed all required supportive courses defined in the first year of the nursing curriculum.



The selection process is the same as for other nursing students. Applicants for admission are ranked using academic criteria, interview results, and challenge test scores. Final selection is made as soon as possible after completion of the challenge exams and is limited to the spaces available in the second year nursing class (maximum of 55 students). Satisfactory completion of the LPN-RN transition course (NURS 123) is required before enrollment in the second year of the program. NURS 123 is offered during the summer session.

Final selection will be made prior to May 15, based on the ranking of applicants with the interview results, the academic criteria and residency status contributing to the ranking process. Non-residents of Johnson County will not be admitted to the program until all Johnson County residents have been considered. Those applicants ranking high enough for acceptance will be given ten days to accept their positions in the program and will be required to pay a \$125 tuition deposit. The deposit will be refunded if a student notifies the Admissions & Records Office in writing of his/her intention not to accept his/her position in the class on or before June 1. No refund will be made after June 1.

After May 15 all remaining qualified applicants will be reranked for admission to the program without regard to residency. Students accepting a position in the program after June 1 will be required to submit a non-refundable \$125 tuition deposit.

#### **Dental Hygiene**

The College selects a maximum of 24 individuals for admission to the Dental Hygiene Program each year. New students entering the program will begin their clinical courses only during the fall semester. Applications for admission must be submitted on or before February 1 of each year to be guaranteed consideration for admission for the following fall. All applicants must submit, by February 1, a high school transcript or equivalent, official college transcripts, results of the American College Test (ACT) and other documents as specified in the application packet. Each applicant will also be required to submit residency verification. All applicants who meet the minimum academic standards will be scheduled for personal interviews.

Final selection will be made prior to May 15 based on the ranking of applicants, with the interview results, the academic criteria and residency status contributing to the ranking process. All Johnson County residents will have ten bonus points applied to their final ranking. County residency must be established six (6) months prior to the date the application is filed in the Admissions Office. State residency is also established at this time. Bonus points will not be granted to non-

residents. Applicants ranking high enough for acceptance will be given five days to accept or deny their positions. All applicants who accept their positions in the program will be required to pay a \$125 tuition deposit. The deposit will be refunded if a student notifies the Admissions & Records Office in writing of his/her intention not to accept his/her position in the class on or before June 1. No refunds will be made after June 1.

After May 15 all remaining qualified applicants will be reranked for admission to the program, without regard to residency. Students accepting a position in the program after June 1 will be required to submit a non-refundable \$125 tuition deposit.

### **MICT**

#### **(Mobile Intensive Care Technician)**

The College selects a maximum of 20 individuals for admission to the Mobile Intensive Care Technician Program each year. New students entering the program will begin their clinical courses during the spring semester. Applications must be submitted on or before October 15 for admission consideration for the following spring. All applicants must submit admission requirements by October 15 to guarantee consideration: a high school transcript or equivalent, prior college transcripts, completed health forms, completed service-related forms, photocopy of current drivers license, and evidence of completion or current enrollment in both an EMS course and completion of an Anatomy/Physiology class. All applicants who meet the minimum academic standards will be scheduled for interviews.

Final selection will be based on the ranking of applicants with interview results, academic criteria and residency status contributing to the ranking process. Johnson County residents are given priority in admission.

#### **Paralegal Program – Accelerated Certificate Program**

The college selects a maximum of 15 individuals for admission to the Paralegal Program – Accelerated Certificate each summer. New students entering this program will begin their studies only during the summer semester. Applications for admission must be submitted **on or before** April 10 of each year. All applicants must submit by April 10, an official copy of transcripts of **all** prior college work. All applicants who successfully meet the academic criteria will qualify for a combined interview(s) and/or testing process.

Final selection will be based upon a ranking of the applicants with interview and/or testing process and academic criteria contributing to the ranking process.

Applicants ranking high enough for acceptance will be given ten days to accept or deny their positions. All applicants who accept their positions in the program will be required to pay a \$125 tuition deposit. The deposit will be refunded if the student notifies the Admissions & Records Office in writing of his/her intention not to accept his/her position in the class on or before May 15. No refund will be made after May 15.

After May 15, 1987, students accepting a position in the program will be required to submit a non-refundable \$125 tuition deposit.

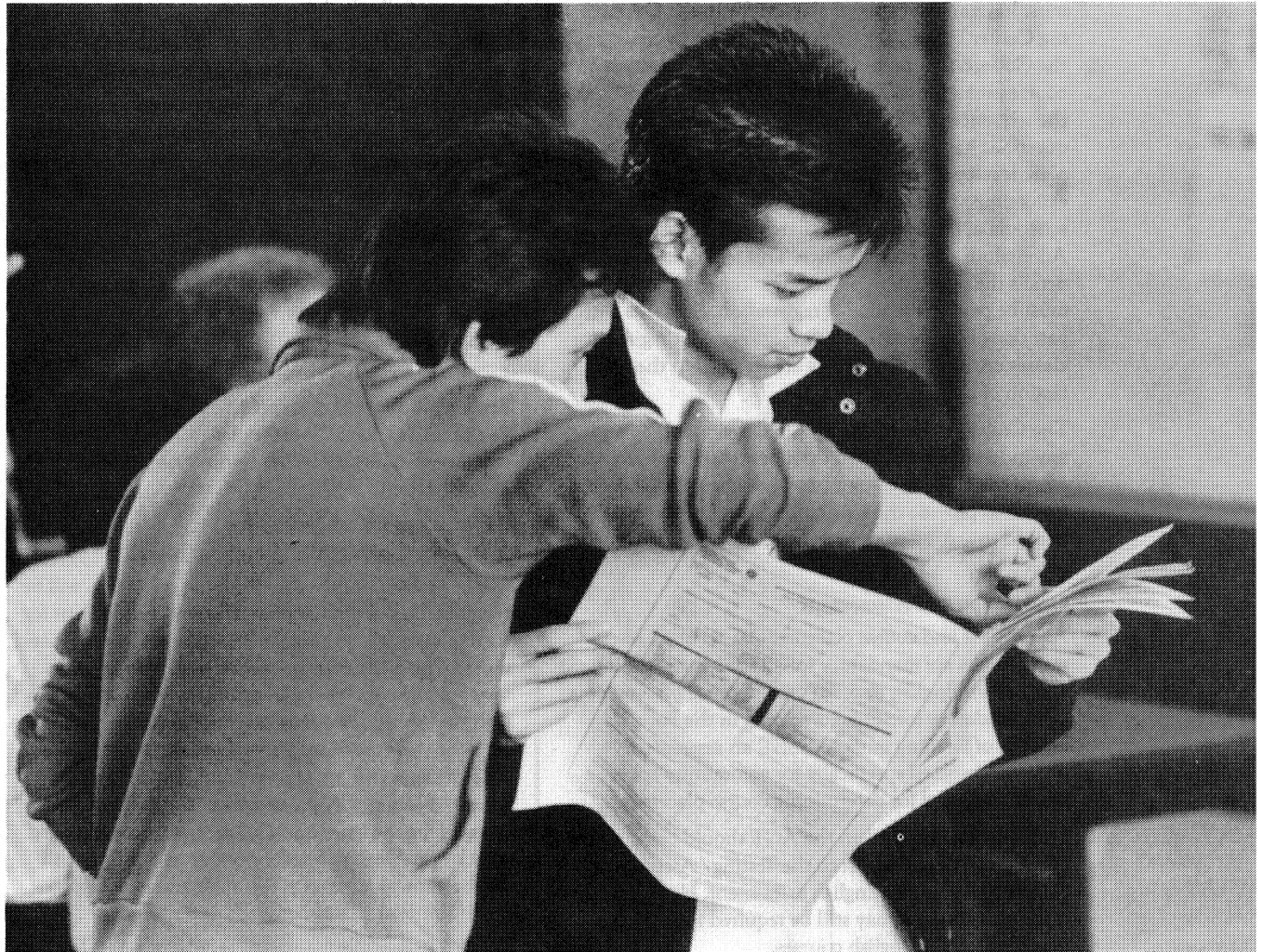


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# REGISTRATION TUITION & FEES



## **Registration Procedures**

*Counseling*

*Assessment*

*Scheduling Classes*

*Student Course Load*

*Early Registration*

*Late Registration*

*Registration for Audit Classes*

## **KCRCHE**

**Adding And Dropping A Class**

**Tuition And Fees**

**Refunds**

**Textbook Costs**

# REGISTRATION PROCEDURES

## Counseling

Students must meet with their JCCC counselor to develop an educational plan. Degree-seeking students must have an educational plan on file in the Counseling Center before they complete 30 hours of credit at the College. Counselors will inform students about course prerequisites, the transferability of courses, and the sequence in which they should be taken. When questions have been answered, and the educational plan developed, students are then ready to register. The exact time and day to register will be listed in the schedule of credit classes available each semester at the Admissions & Records Office. This schedule also details the registration procedures. Tuition and fees must be paid at the time of registration. Students with past due obligations to the College may not register for classes until such obligations are resolved to the satisfaction of the College.

The College reserves the right to deny registration to any individual considered detrimental to the best interests of the College community and when the College is unable to provide the services, courses or program needed to assist a student to meet his/her educational objectives.

## Orientation and Assessment

Assessment and course placement based upon assessment results are mandatory for all students planning to enroll in an English or math class. Course placement is also mandatory for students scoring in the Fundamentals of Reading range. ASSET, an assessment program designed specifically for community college students, is used for determining course placement.

Students who have taken the ACT should bring a copy of the ACT Score Report to the Testing / Assessment Center in lieu of the English assessment. However, the reading assessment may still be required for students planning to take English courses.

During the assessment process, students will have the opportunity to attend a new student orientation session. The orientation and assessment process takes about 2½ to 3 hours to complete.

Orientation and Directions .....	35 minutes
English test .....	25 minutes
Reading test .....	20 minutes
Math test .....	18 - 45 minutes

## Scheduling Classes

Students at JCCC are responsible for scheduling their classes. Counselors are available to assist in the process.

The College reserves the right to cancel, combine, 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. Schedule changes will be available at registration. It is the student's responsibility to be aware of all schedule changes.

## Student Course Load

A student wishing to enroll for more than 18 semester hours of credit in a regular semester or more than 9 hours of credit in an eight-week summer session must receive written permission from a counselor.

## Early Registration

Early registration is open to students who have submitted admission applications or who are currently enrolled. During early registration, students may register over the telephone at times specified in the class schedule.

## Late Registration

Students may register for credit classes after the first day of the semester. There is an \$10.00 fee charged for late registration. Check the credit class schedule for the specific dates.

## Registration for Audit Classes

A student may enroll to audit a credit class. No credit will be received for the course, but a grade of X will be recorded on the permanent transcript. Enrollment for audit classes will require division director approval and must be made during the second week of a 16-week term; four days after the beginning of classes for an eight-week term; two days after the beginning of classes for a four-week session; and one day after the beginning of classes for a two-week mini session, a short course or seminar. Regular tuition and fees will be charged for the course and refunds will be authorized only by the Dean of Student Services. Students will not be allowed to change the audit status to regular credit status at a later date.

## KCRCHE

Through its affiliation with the Kansas City Regional Council for Higher Education, Johnson County Community College is able to offer its students access to the courses and programs at KRCRCHE colleges and universities.

Johnson County Community College full-time students can take one course per semester at any of these colleges at the JCCC tuition rate.

This program provides a rich resource especially if students are interested in developing a creative academic program. Lists of courses are available in the Admissions Office. For more information contact the Director of Admissions & Records.

## ADDING AND DROPPING A CLASS

### Adding a Credit Class

Students may add a credit class through the first week of classes during a regular semester, the first four days of classes during an eight-week summer session, the first two days of a four-week mini session, and the first day of a course shorter than four weeks.

### Adding a Non-Credit Class

A student may add a non-credit class any time during the semester.

### Dropping a Credit Class

**Sixteen-Week Term:** A student may drop a class up to one week before the last day of the semester for a regular 16-week term.

**Eight-Week Term:** A student may drop a class up to three days before the last day of an eight-week term.

**Four-Week Term:** A student may drop a class up to two days before the last day of a four-week term.

**Terms Less Than Four Weeks:** A student may drop a class up to one day before the last day of the term.

A "W" grade is recorded on the student's permanent record if the drop occurs after one quarter of the term has passed.

Note: Students whose records are on "hold" status will not be allowed to drop a class.

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

Courses dropped and added simultaneously which have the same number of credit hours will be treated as an even exchange of tuition and fees during the refund period of each semester or term. Courses dropped and added simultaneously with different total credit hours will be processed as a drop at the appropriate refund percentage and added at the total tuition and fees cost. Students dropping a class on one day and adding a class on another will be required to pay for the class added.

After the expiration of the refund period, only changes in sections of the same course will be treated as an even exchange for tuition purposes. Course level changes as

recommended by the instructor after the refund period will be treated as even exchanges as long as the credit hours are the same. If a student drops a course and adds a different course after the expiration of the normal refund period, the student will be required to pay the additional tuition. If the dropped class falls within the withdrawal period of each term, the student will be given a "W" for the course.

### Dropping a Non-Credit Class

Because non-credit classes begin at different times throughout the semester non-credit classes may be dropped according to procedures as outlined in the non-credit bulletin of classes.

## TUITION AND FEES

### Credit Class Tuition

#### Kansas Residents:

Tuition . . . . . \$22.00 per semester credit hour  
 Commons Fee . . . . . \$1.50 per semester credit hour  
 Student Activity fee . . . \$1.00 per semester credit hour

**TOTAL PER CREDIT HOUR . . . . . \$24.50**

#### Out-of-State, Foreign Students:

Tuition . . . . . \$82.50 per semester credit hour  
 Commons Fee . . . . . \$1.50 per semester credit hour  
 Student Activity fee . . . \$1.00 per semester credit hour

**TOTAL PER CREDIT HOUR . . . . . \$85.00**

The JCCC Board of Trustees has the right to change tuition and fees without notice.

Some courses may require fees in addition to tuition. These fees are listed in the class schedule each semester.

All tuition and fees must be paid at enrollment. Students will not graduate or have a transcript issued until all tuition, fees and past due obligations are paid.

### Non-Credit Class Tuition

Course fees for non-credit classes are determined on an individual course basis. Check the Community Education/Non-Credit Bulletin for specific course fees.

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## REFUNDS

### Credit Class Refunds

A full refund of tuition and fees will be issued if JCCC exercises its right to cancel a class. Students who withdraw from classes may receive a partial refund. Apply for a refund through the Admissions & Records Office by completing the drop form. Students who have completed registration and desire to withdraw from a class or classes in which they are enrolled will receive the following refund:

- 100% of tuition and fees refunded if withdrawal is processed by the Admissions & Records Office before – but not on – the first day of the semester, term or session;
- 80% of tuition and fees refunded if withdrawal is processed by the Admissions & Records Office
  - within two weeks after the beginning of classes for 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 changes of registration made after the calendar days as specified. The only exceptions are if the class is cancelled by the College or a revision of the class schedule is necessary, in which case a 100% refund of tuition and fees will be issued. Refunds are calculated based upon the day the student officially drops a class in the Admissions & Records Office and not when the student stops attending class. Exceptions to this policy may be authorized by the Dean of Student Services. All appeals must be made in writing.

### Non-Credit Class Refunds

A full refund will be made for non-credit classes if the College exercises its right to cancel a class, if a class is full at the time the registration is received, or if the Admissions & Records Office receives a written request from the student before the second class meeting begins. There is no refund of fees paid for classes or activities that meet for less than one week in duration. There will be no refunds for sports clinics or individualized riding instruction.

Exceptions to this policy may be authorized by the Dean of Student Services. All appeals must be in writing.

## TEXTBOOK COSTS

Full-time students can expect to pay from \$200 to \$250 per semester for textbooks. Textbooks may be purchased in the JCCC Bookstore, located in the College Commons Building.

Procedures for refunds for textbooks and buy-back for textbooks are listed each semester in the credit and non-credit schedule of classes.

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# STUDENT FINANCIAL SERVICES



**Application Procedures**  
**Types Of Aid Available**  
**Satisfactory Academic Progress**  
*Financial Aid Probation*  
*Financial Aid Exclusion*  
*Financial Aid Eligibility*  
**Veterans Benefits**



## STUDENT FINANCIAL SERVICES

JCCC makes available grants, scholarships, and loans to both full-time and half-time students. Some part-time employment opportunities are also available to students.

Most financial assistance is awarded to students who can demonstrate financial need. Each individual's financial need is based on the amount of money the parent(s) and/or the student is expected to contribute to educational costs. The JCCC Student Financial Services Office assesses the financial needs of each student through a fair and objective analysis called the Family Financial Statement provided by the American College Testing Program (ACT).

### TO APPLY FOR FINANCIAL ASSISTANCE

Complete an application for admission to JCCC. If applying for federal aid or other need-based assistance, the student will have to submit a completed **Family Financial Statement (FFS)** with the required fee to ACT. If applying for aid not based on need, the student need only submit the **Kansas Student Data Form (KSDF)** to the JCCC Student Financial Services Office.

The FFS and KSDF are available from the JCCC Student Financial Services Office. Signed copies of tax forms may be required to verify information if the application is selected for verification by the Federal Government.

The JCCC Student Financial Services 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.

Students should submit financial aid applications by **April 1** for the fall and spring semesters. Applications received after those dates will be considered only if funds remain available.

A written **Offer of Financial Assistance** will be sent to the applicant as soon as all requested/required forms and verification documents have been received, reviewed and eligibility determined.

Financial aid will be used to pay tuition and fees; a book waiver may be requested. **Financial Aid funds will NOT be disbursed directly to students before the fifth week of classes**, with the exception of GSL, Supplemental, and PLUS Loans, which are disbursed on the first day of classes (if available).

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

If the written Offer of Financial Assistance has not been received by the student, signed and returned to the Student Financial Services Office, the student will be responsible for payment of tuition and fees. Financial assistance may still be awarded after tuition has been paid; in this instance the award will also be applied to tuition and fee expenses, and the student will receive a tuition refund from the JCCC Business Office.

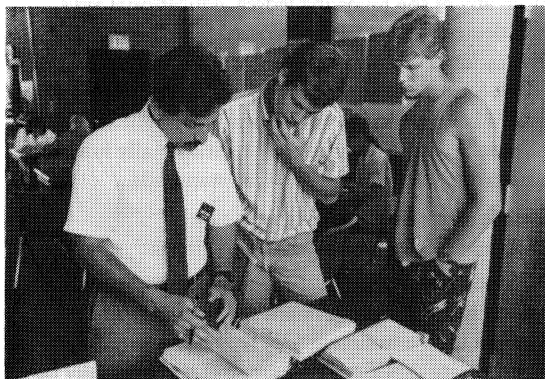
### TYPES OF FINANCIAL ASSISTANCE

Several types of financial assistance are available to students enrolled in a minimum of six credit hours.

#### NEED-BASED ASSISTANCE

- **Pell Grants** are funded by the Federal Government. If eligible, the student may receive up to \$2100 per academic year at JCCC. The grant can apply toward any education-related expenses.
- **The Supplemental Education Opportunity Grant (SEOG)** is a government grant that ranges from \$100-\$4000 per academic year and can be applied toward any education-related expense.
- **Need-Based Board of Trustees Grants (BOT)** are financial awards made to JCCC students who have a 3.0 GPA and demonstrate need, and will pay tuition and fees up to 15 credit hours. Only Johnson County residents are eligible. Funds are limited and competitive.
- **Foundation Grants (need-based)** are restricted to students who have completed the ACT FFS application. Each grant has unique qualifications, and is administered by the JCCC Foundation. For a list of these grants and their qualifications, contact the Student Financial Services Office.
- **The Kansas State Scholarship** limited to students designated as Kansas High School Scholars who have financial need as defined by the State of Kansas. The student must apply by completing the ACT Family Financial Statement, and sending this information directly to the State of Kansas by designating Code 1433 in addition to the JCCC school code.

- **Vocational Rehabilitation** supports student's educational costs through the student's area vocation rehabilitation office. Students should contact that office to determine their eligibility. Furthermore, eligibility for the Pell Grant must be determined before vocational rehabilitation can be awarded.
- **The Bureau of Indian Affairs** offers grants to American Indian students. In part, eligibility requirements include demonstrated financial need and satisfactory academic progress. Additional information and application materials are available through the area agency office holding records of tribal membership.
- **The Perkins Loan** (formerly known as National Direct Student Loan) a 5 percent federal government loan, is processed through JCCC. The loan ranges from \$200-\$2250 a year. A cumulative maximum of \$4500 may be borrowed while a student is enrolled at JCCC. The loan is interest-free while the student is enrolled in at least six credit hours. First time applicants begin repayment nine months after leaving school, renewal applicants begin repayment six months after leaving school.



- **Guaranteed Student Loan (GSL)** funds are provided by a participating bank, savings and loan, or credit union of the student's choice. Eligibility for this 8 percent loan is determined by the JCCC Student Financial Services Office. A JCCC student may borrow up to \$2625 per year (if eligible). The GSL is interest-free while the student is enrolled in at least six credit hours. Six months after you leave school you must begin repaying the loan. The loan is subject to lender and guarantee fees which are deducted from the loan proceeds.
- **College Work Study Program** is a federally funded program in which students work part-time on campus. The pay will vary according to the job position. Pay checks are issued twice a month.

## OTHER FINANCIAL ASSISTANCE

- **The Presidential Scholarship** is awarded for tuition and activity fees up to 15 credit hours to students who have graduated from a Johnson County high school the previous year and were National Merit finalists or semi-finalists.
- **Academic Board of Trustees Grants (BOT)** are financial awards made to JCCC students who have a 3.5 cumulative GPA, and will pay tuition and fees up to 15 credit hours. Only Johnson County residents are eligible. Funds are limited and competitive.
- **Talent Board of Trustees Grants (BOT)** require a faculty recommendation and a 2.0 cumulative GPA, and will pay tuition and fees up to 15 credit hours. Only Johnson County residents are eligible. Funds are limited and competitive.
- **JCCC Athletic Grants** will pay for tuition and books only. Eligibility for athletic grants is based on academic standards established by the National Junior College Athletic Association (NJCAA). Awards are made upon the recommendation of the Physical Development Department. Eligible applicants must enroll in a minimum of 12 credit hours each semester. Furthermore, eligible candidates must complete 24 credit hours with a 1.75 minimum cumulative GPA after completion of first academic year.
- **Brown and Gold Club** offers free membership to all Johnson County residents 60 years of age and older. Credit courses are offered free to Brown and Gold members. Course fees must be paid by the student.
- **Notetaker Stipends** are available for students who wish to take notes for hearing-impaired students in their classes. This stipend will reimburse the student for the tuition and activity fee for the class at the end of the semester. Contact Special Services.
- **The Vocational Education Scholarship** provided by the State of Kansas will award \$500 a year up to two years for 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 March.
- **The Congressional Teachers Scholarship** provided by the State of Kansas will award \$5000 per year to Kansas residents who are in preschool, elementary and secondary educational programs. Eligible candidates must have graduated in the upper 10 percent of their class and have the highest ACT scores. Application deadline is May 1.

- **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 available through the JCCC Student Financial Services Office.

All applicants for VA educational benefits must have a degree program plan developed and approved (or updated) by a JCCC academic counselor prior to each registration; benefit pay is authorized for only those courses specifically listed/indicated on each individual program plan. Formal enrollment must be maintained in order to lawfully receive educational benefits. To maintain benefit eligibility, all participants are required to meet the same published standards of Satisfactory Academic Progress as all other entitlement and financial aid recipients at JCCC.

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	¾ time benefits
6-8 semester hours	½ time benefits

\* Fewer hours are needed for benefits during summer semester.

- **Corporate Billing** is available to students who have their tuition paid by their employer. The student must provide a letter from the employer verifying eligibility, as well as specifying the terms and amount the employer agrees to pay.
- **Supplemental Loans for Students/Parent Loan for Undergraduates** are administered by a bank, savings and loan or credit union of the student's choice. Eligibility is determined by the Student Financial Services Office. Eligible independent students or parents of dependent students may borrow up to \$4000 per year. This amount may be in addition to any amount borrowed under the Guaranteed Student Loan program. However, the amount borrowed cannot exceed the cost of education (as determined by JCCC) minus any other financial assistance received. These loans carry variable interest rates with a maximum chargeable rate of 12 percent. Repayment of this loan usually begins 60 days after receipt of the loan check. In some cases the Supplemental Loan for Students may have repayment delayed while continuous school enrollment is maintained. However, interest will accumulate and periodically be added to the balance (original amount borrowed). This will increase the amount of the outstanding balance owed. Interest will be charged against the increased balance when actual repayment begins.

- **Foundation Short-Term Loans** are made available by the Johnson County Community College Foundation to pay for tuition and fees, or books, and are issued only at the beginning of the school term. You must repay these loans in 30-60 days.
- **Emergency Short-Term Tuition Loans** are available to Kansas residents to help pay tuition and fees only. If the loan is not repaid 18 days after classes have begun, your registration will be cancelled.
- **Many Employment Opportunities** are available while attending JCCC, both on-campus and in the community. For information concerning on-campus employment, contact the JCCC Human Resources Office, 252 GEB. Assistance locating off campus employment is available through the JCCC Career Planning and Placement Office, 155 GEB.

## SATISFACTORY ACADEMIC PROGRESS

Federal regulations require that a student must be making "satisfactory academic progress" toward a certificate, degree or transfer program leading to a Bachelor's Degree in order to be eligible to receive aid from any of the following federal educational aid/entitlement programs: Pell Grant, Supplemental Educational Opportunity Grant, Perkins Loan, College Work Study, Guaranteed Student Loan, Supplemental/PLUS Loan and Veterans Educational Benefits. In addition, students requesting institutionally funded assistance must meet these same standards.

### Satisfactory Academic Progress Is Evaluated By The Following Criteria

1. Students enrolled in six or more credit hours during any individual enrollment period who withdraw from total enrollment **OR** fail to successfully complete **ANY** credit hours will automatically be placed on Financial Aid Exclusion, and will not be eligible for financial assistance. (See "Financial Aid Exclusion" for further explanation.)
2. Students must successfully **complete 66 percent (⅔) of ALL credit hours attempted** while in attendance at JCCC – up to a maximum of 97 hours. A Satisfactory Academic Progress Chart may be obtained from the Student Financial Services Office.

3. Students must attain a minimum cumulative grade point average (GPA) based on the number of credit hours **COMPLETED**.

Number of Successfully Completed Hours	Minimum Cum. GPA
1-8	1.0
9-16	1.2
17-24	1.4
25-32	1.6
33-40	1.7
41-48	1.8
49-56	1.9
57-64	2.0

4. Determining Satisfactory Academic Progress for each student requesting financial assistance at JCCC is based on academic transcript review of **ALL PREVIOUS ENROLLMENTS AT JCCC**, including enrollment periods when financial aid was not requested or received.
5. Courses in which a grade of "F" (failure), "I" (incomplete), "W" (withdrawn), and "R" (repeated) are recorded **count toward the total hours attempted**. However, of these grades, only the "F" is included in the computation of the cumulative grade point average.
6. Students who have **ATTEMPTED** more than 97 credit hours and have not completed the requirements for a degree, certificate or transfer program are no longer considered to be making satisfactory academic progress.

#### **Financial Aid Warning**

Students who are deficient in either percentage of hours completed and/or cumulative grade points earned will automatically be placed on Financial Aid Warning for one semester.

Students who are placed on Financial Aid Warning will be notified in writing by the Student Financial Services Office as soon as possible. However, **notice of Financial Aid Warning may be retroactively incurred based on evaluation of the students' previous academic history at JCCC.**

#### **Terms of Financial Aid Warning**

During the Financial Aid Warning period students will remain eligible to receive financial aid/entitlements. At the end of the warning period the student's 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, the student will be automatically reinstated in good academic standing and removed from Financial Aid Warning.
2. If the student is not yet meeting the minimum standards of progress, but **did complete all attempted** credit hours (minimum six hours attempted) with grades of "C" or above, the Financial Aid Warning period will be renewed. (Remember: "W" and "I" count as hours attempted.)
3. If neither of the preceding terms of Financial Aid Warning are met, the student will be placed on Financial Aid Exclusion.

#### **Financial Aid Exclusion**

1. Students enrolled in six or more credit hours during any individual enrollment period who withdraw from total enrollment or fail to successfully complete **any** credit hours will automatically be placed on Financial Aid Exclusion and will be ineligible for financial aid/entitlements at JCCC.
2. Students who attempt more than 97 hours will automatically be placed on Financial Aid Exclusion (with the exception of Veterans Benefit recipients).
3. Students who do not meet the conditions or terms of Financial Aid Warning will also be placed on Financial Aid Exclusion.

Students placed on Financial Aid Exclusion will be notified in writing by the Student Financial Services Office as soon as possible. However, **notice of Financial Aid Exclusion may be retroactively incurred based on evaluation of the student's previous academic history at JCCC.**

Financial Aid Exclusion does **not** mean a student will be prohibited from attending JCCC. Students **may** attend JCCC, but cannot receive any federal or institutional funds until one of the following conditions is satisfied.

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**Conditions For  
Reinstatement of Financial Assistance**

Students on Financial Aid Exclusion will be denied financial assistance until one of the following occurs:

1. The student meets the minimum standards of satisfactory academic progress at JCCC.
2. The student completes **ALL attempted credit hours** at JCCC (minimum of 6 hours attempted) 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 do not exceed 97 hours. (Remember: "W" and "T" count as hours attempted.) **If this condition is satisfied, the student may have aid reinstated within the terms of Financial Aid Warning.**
3. The student's written appeal is approved by the Student Affairs Committee.

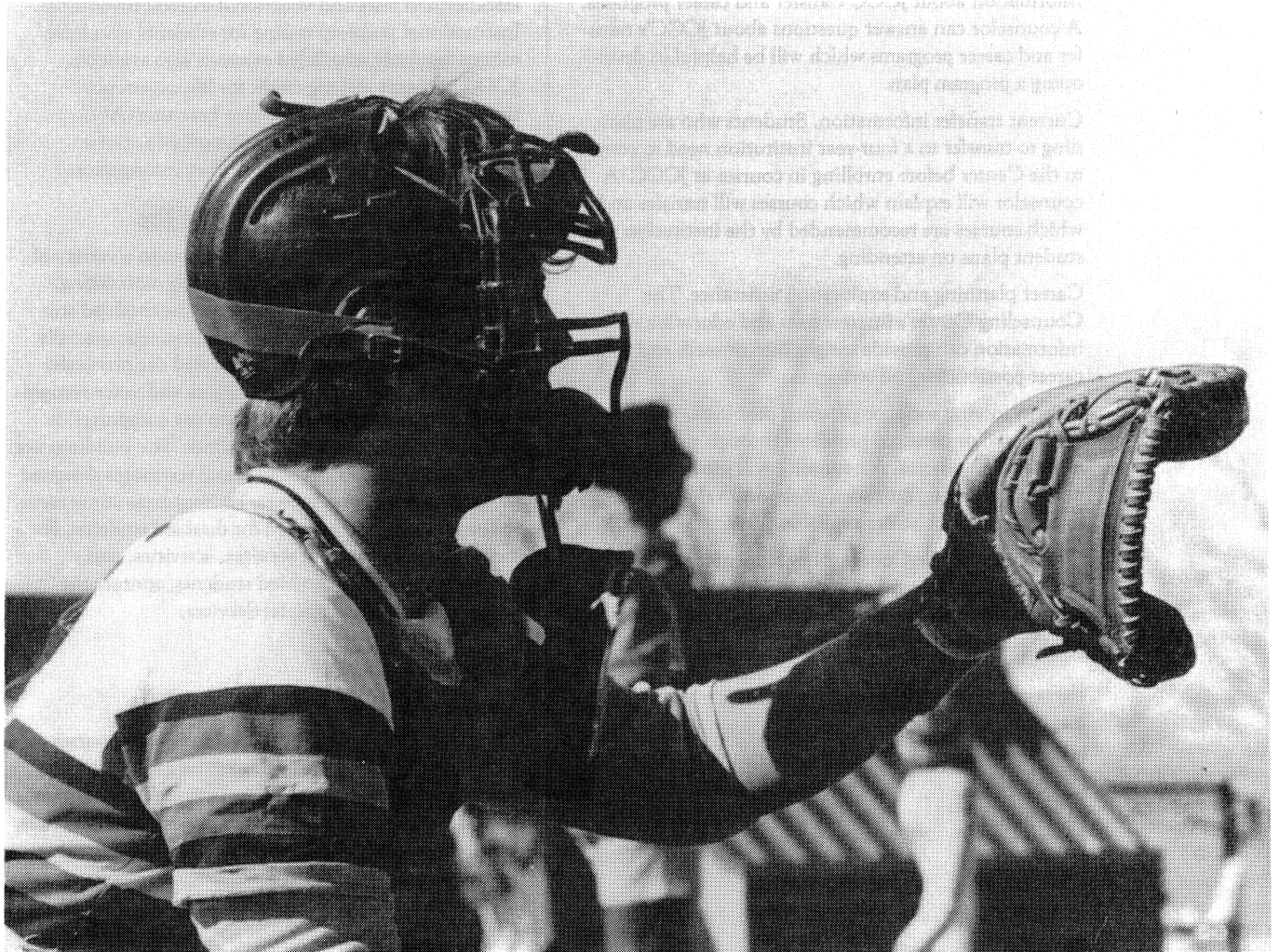
**Appeal Process**

An appeal process is available to any student placed on Financial Aid Exclusion. The appeal should be submitted to the Student Financial Services Office in writing within 30 calendar days of the notice of aid termination. The statement should explain mitigating circumstances which prevent the student from maintaining satisfactory academic progress, and include supporting statements and documentation from appropriate sources (physician, academic advisor, employer, etc.).

Appeals will be reviewed by the Student Affairs Committee within 20 working days after receipt of the written appeal and supporting documentation. The Student Affairs Committee will make a determination after reviewing the documentation provided by the student. If the appeal is approved, the student will be placed on Financial Aid Warning. If the appeal is denied, the student will remain on Financial Aid Exclusion. The decision of the Student Affairs Committee is final and will be communicated to the student in writing.

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# STUDENT SERVICES



**Counseling**  
**Testing/Assessment**  
**Disabled Students**  
**Student Health**  
**Student Housing**  
**Career Planning And Placement**  
**Adults Unlimited**  
**Hearing Impaired Program**  
**Child Play Center**  
**Dental Hygiene Clinic**  
**Library**  
**Bookstore**  
**Parking**

**Student Code Of Conduct**  
**Student Grievance**  
**Access To Student Information**  
**Student Activities**  
**Student Government**  
**Student Publications**  
**Clubs And Organizations**  
**Intercollegiate &**  
**Intramural Athletics**  
**Phi Theta Kappa Society**  
**Forensics**  
**Music Organizations**  
**Drama**



## COUNSELING CENTER

JCCC's counseling staff is available to help with academic, career or personal problems. Students may meet with a counselor on a walk-in basis or by appointment. The Counseling Center offers:

Information about JCCC transfer and career programs. A counselor can answer questions about JCCC's transfer and career programs which will be helpful in developing a program plan.

Current transfer information. Students who are planning to transfer to a four-year institution need to come to the Center before enrolling in courses at JCCC. A counselor will explain which courses will transfer and which courses are recommended by the institution the student plans on attending.

Career planning and exploration assistance. The Counseling Center's interest tests and educational information can provide insight into oneself, and into career possibilities and strategies.

Help in solving social or personal problems. Learn to solve social or personal problems through a self-examination process. A counselor will provide guidance in evaluating attitudes, goals, and values. Community referrals also are available.

Orientation to the College. New students may have trouble getting around at first. A Counseling Center orientation session may be helpful. Individual and group sessions are available.



## TESTING/ ASSESSMENT CENTER

The center provides a variety of services including English, math and reading assessments for new student placement, telecourse testing and administration of standardized tests and vocational interest inventories. Instructional make-up testing for students who have missed regularly scheduled exams is also available. JCCC students seeking credit for life experience through the Assessment of Prior Learning (APL) program or interested in "testing-out" of a course should contact the center for further information.

## DISABLED STUDENTS

Disabled students at JCCC have access to a variety of support services including interpreting, notetaking, tutoring and other services to allow the disabled student full participation in classes. Equipment specially designed for the visually impaired and the physically disabled, such as speech synthesizers and voice recognition devices to enable a student to use computers, is available to students with disabilities. The buildings are equipped with ramps, elevators and restrooms designed to accommodate wheelchairs. Parking areas convenient to the buildings are reserved for disabled students. For more information about services, activities, and facilities available to disabled students, contact the Program Manager of Special Services.

## HEARING IMPAIRED PROGRAM

The Hearing Impaired Program offers credit courses which prepare hearing impaired students to enter the mainstream of regular career and transfer programs at JCCC. Services available through this program include counseling, interpreting, notetaking and tutoring. Remedial courses in the areas of English, reading, math and manual communication are available each semester.

### Summer Preparatory Program For Hearing Impaired Students

All hearing impaired students who intend to enroll in six or more credit hours per semester are encouraged to attend a summer preparatory program. The Prep Program is a six-week credit learning experience designed to assist students in making the transition from secondary to post-secondary studies. For further information, contact the Program Manager of Special Services.

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## STUDENT HEALTH

The College does not provide on-campus medical services, nor does it assume responsibility for injuries incurred by students while participating in College activities. Medical services are available at local clinics and hospitals.

The College reserves the right to require a medical examination of any student at any time. When a medical examination is required for admission or continuation in a program or activity, a satisfactory medical record report from a licensed physician must be filed with the Dean of Student Services. The Dean will review the medical record report and may deny permission for a student to participate in a program, course or activity.

The College does not provide health and accident insurance for students. Students must contract for this type of coverage on an individual basis.

## STUDENT HOUSING

The Student Activities Office will help students obtain housing in the Johnson County area. A computerized listing of area apartment complexes that offer student discounts, a list of community members who wish to rent rooms in their homes to students, and a roommate matching program, are just a few of the services offered. JCCC does not maintain on-campus student housing, but will refer students and provide information for students.

## CAREER PLANNING AND PLACEMENT CENTER

The Center provides help in two areas: exploration of career options and the job search. Career education, individual or group career planning, and information on more than 20,000 occupations are among the services available.

Hundreds of current job openings are listed for students and other members of the community. Placement services are available to Johnson County Community College students and/or alumni upon registration in the Center. Extensive community/corporate files provide another area of information for an effective job search. Students can receive help with research for classroom assignments on topics related to career/life planning and job hunting. Workshops and individual appointments are available throughout the year. Students are invited to come by the Center and learn how to take advantage of this resource.

## ADULTS UNLIMITED PROGRAM

Adults returning to school may receive assistance in educational, career and personal decision-making and goal-setting through the Adults Unlimited Program. Counseling, information and referral services are also provided. The program publishes a monthly newsletter for adult students. It also sponsors support groups and non-credit workshops. The services are available on a walk-in basis or by appointment in the Counseling Center.

## CHILD PLAY CENTER

Children may stay in the Child Play Center while the parent is in class or on campus for other school activities. The service is designed especially for children of JCCC students. A staff person, qualified in accordance with Kansas State regulations is on hand to care for children between the ages of 2½ (toilet trained) and 10. The Child Play Center challenges the imagination and creativity of each child providing group activities such as songs, games and storytelling as well as free-play activities using dramatic play, manipulative toys, art, music and building materials. The Center also strives to guide and accept children at their own levels. Students may reserve a place for their child on a regular basis or use the Center on a drop-in basis by contacting the Child Play Center. The Center is licensed to serve a limited number of children; therefore, early enrollment is recommended. A fee will be charged for this service.

## DENTAL HYGIENE CLINIC

Students and their families may have an oral examination, have their teeth cleaned, X-rayed, and treated with fluoride for a small fee at the Dental Hygiene Clinic. Dental hygiene students, supervised by licensed dentists and dental hygienists, will provide these services and will show proper oral care in the future. Call the Clinic to make an appointment.





## **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 for assistance in finding and using the resources.

Currently, the library houses 60,000 books, 560 current periodicals, 300,000 documents on microfiche and hundreds of slides, videotapes and audio recordings. These materials are maintained and made available to the public via the use of computer-produced microfilm catalogs.

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

Reference books, most audio-visual material, all magazines and newspapers must be used in the Library. There is a coin-operated photocopier available if copies are needed. Books are due 21 days from the day the books are checked out. There are no fines assessed for overdue books, but students who fail to return library material will have their records placed on hold. If a book is lost, the cost of the book plus a \$5 service charge will be assessed. Sometimes instructors may place materials on reserve and specify a loan period. Twenty-five cents an hour on each item kept past the time will be charged, or \$5, whichever is less. Transcripts or grades will not be released until all library obligations are met.

## **BOOKSTORE**

The College bookstore is located on the lower level of the College Commons. Textbooks, classroom supplies and many miscellaneous items are available for purchase. Bookstore hours of operation are listed each semester in the credit schedule of classes and the non-credit bulletin of classes.

## **PARKING**

The College will provide free parking for students. Students are not required to register vehicles.

Parking lots are marked with signs designating areas for student, visitor, handicapped, staff and faculty parking. Students are not permitted to park in areas designated for handicapped (unless they obtain a permit), visitor or 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.

Tickets will be issued and a fee charged for the following violations:

- parking in restricted areas such as driveways, staff lots, loading areas, designated handicapped spaces or on the grass;
- parking improperly such as across the yellow lines or on yellow pads;
- exceeding the speed limit or reckless driving.

Your vehicle will be immobilized if you receive a third ticket. A fee will be charged to remove the immobilizer.

### **Handicapped Parking**

If an individual is permanently or temporarily disabled, a parking permit may be obtained from the Student Development Office. This permit will allow parking in designated spaces on campus. A physician's certification may be required to receive this permit.

### **Bicycle Racks**

Racks are available throughout the campus. Bicycles do not need to be registered.

### **Emergency Parking or Loading**

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

### **Handicapped Lot Violation**

Vehicles will be immobilized upon receipt of the second citation. The fee for the first offense is \$10. The second offense is \$20 and removal of immobilizer is \$5. Additional offenses may result in the vehicle being towed.

### **Accidents**

If involved in an accident on campus, notify the Security Office immediately and file an accident report.

## **STUDENT CODE OF CONDUCT**

JCCC reserves the right to suspend a student for any conduct which is detrimental to the best interests of the College. The following violation of the College's standards for student conduct may result in suspension or other disciplinary action:

- Threatening the life or physical safety of others
- Substantially disrupting, impeding or interfering with the operation of the College
- Damaging College equipment or facilities
- Violating conditions of probation
- Academic dishonesty
- Willfully violating any published regulation for student conduct adopted or approved by the Board of Trustees

- Conduct which results in your conviction of a federal or state offense. (The College does not prohibit the participation in College programs of students who have previous criminal records for which they have met the requirements of the law.) The Dean of Student Services is responsible for any temporary or permanent student suspension. The student will have the opportunity to discuss the suspension with the Dean before any formal action is taken, unless the suspension is a result of action involving an immediate danger to life, limb or property.

The College considers suspension a serious action. Every effort will be made to keep the student in school and to help fulfill the student's objectives.

There is a written policy about suspension that protects the rights of the individual. All procedures are handled in writing with enough time for appeal of the suspension through a student discipline committee of the College to the President of the College and to the Board of Trustees. A copy of this policy may be obtained from the Dean of Student Services.

#### **Student Grievance**

A grievance may concern an alleged violation of school policies, alleged infringement of the student's rights and other such problems concerning students, College staff and authorized College activities. The procedure to process a complaint or grievance is:

1. The student must attempt to rectify the grievance with the supervisor of the area in which the alleged violation occurred within 10 College working days. Every effort will be made to resolve the grievance at the lowest possible level.
2. Consult with the appropriate supervisor (e.g. instructor, coordinator or division director) and attempt to solve the grievance through informal discussions. The supervisor must inform the student in writing of any decision made and the reason for that decision within five College working days. If the



student feels the problem has not been solved, a written grievance should be submitted to the next level of authority within 10 College working days from the time the original complaint was filed at the previous level. Each level appealed to will have five College working days to respond.

3. Consult with the Dean of Student Services.
  - a. Submit the grievance in writing to the Dean of Student Services and request a conference.
  - b. The Dean will notify the Affirmative Action / Title IX Officer of the College in writing of any grievance concerned with alleged discrimination.
  - c. The Dean must, within five College working days, inform the student in writing of any decision made and the reasons for making the decision.
  - d. The student may appeal in writing to the President of the College if the grievance is not resolved with the Dean of Student Services within five College working days after the Dean has received the written grievance.
4. Consult with the President of the College
  - a. The President must receive the written appeal within 10 College working days from the time the grievance was filed with the Dean of Student Services.
  - b. The President must, within five College working days, inform the student in writing of any decision made and reasons for the decision.
  - c. The decision of the President is final.

If the student does not take the next step in the grievance procedure within the stated time period, the grievance shall be considered settled.

No reprisals of any kind will be taken against the student by any member or representative of the administration for filing a grievance.

## ACCESS TO STUDENT INFORMATION

Student rights concerning access to educational records are spelled out in Public Law 98-380 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:

- Provide students the opportunity to inspect their educational records. Contact the JCCC Admissions & Records Office.
- Provide students the opportunity to challenge through a hearing the content of their educational records if believed they contain information that is inaccurate, misleading or in violation of the right of privacy. (Grades are not subject to challenge.)
- Limit disclosure of information from the student's record to those who have the student's written consent or to officials specifically permitted within the law, such as college officials and – under certain conditions – local, state and federal officials.

If the individual is a dependent student, under 18 years of age, parents will have access to the student's educational record. The College will assume the student is a dependent if parents provide a written statement that the individual is listed as a dependent on their federal income tax forms.

JCCC does not publish a student directory. The College may, upon request by authorized individuals, provide the following information:

- student's name
- address
- telephone number
- date and place of birth
- major field of study
- participation in officially recognized activities
- sports – weight and height of athletic team member
- date of attendance
- degrees
- awards received
- most recent previous educational institution attended

Students who object to the disclosure of any of the above information, may notify the Admissions &

Records Office in writing which items should not be released without the student's consent.

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

Students may file a complaint with the Department of Education if believed their rights under the law have been violated and if efforts to resolve the situation through JCCC appeal channels have proven unsatisfactory. Send complaints to:

FERPA, Department of Education  
Room 514 E  
200 Independence Avenue SW  
Washington, DC 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.

## STUDENT ACTIVITIES PROGRAM

JCCC's Student Activities Office, in cooperation with the Campus Activities Board (CAB), brings activities of enormous variety (cultural, social, educational, recreational, vocational) to interested students throughout the year.

Activities are planned and implemented entirely by students for students by the Campus Activities Board via the committee structure. Imagine films (feature, captioned, specialty, recent releases); travel (ski trip, canoe, camping); special events (comedians, novelty acts, blood drives, thematic programming); recreation (contests, intramural competition, games, tournaments, sporting events); lectures (controversial issues, distinguished speakers); and concerts (bands, solo artists, videos).

Active involvement is the key to a vibrant student activities program. There are many opportunities for such involvement: student CAB committee members, a leader in the Student Senate, the president of a club/organization, reporters on the *Campus Ledger*.

For more information on involvement, call or stop by the Student Information Desk, 2.0 College Commons (469-3807). Energetic, creative, dynamic individuals need apply!!!

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## STUDENT GOVERNMENT

The Student Activities Office also works with the Student Senate which acts as a sounding board for student issues. The Student Senate, a totally volunteer organization, has been involved in various activities and campus issues. The Student Senate participates with the faculty and administration in formulating appropriate policies.

## STUDENT PUBLICATIONS

The *Campus Ledger* is the student newspaper authorized by the Board of Trustees and published by the Publication Board who oversee the implementation of the newspaper policies. The *Ledger* emphasizes news and programs that include features, entertainment and a calendar of events.

## CLUBS AND ORGANIZATIONS

To be a recognized club and organization at JCCC requires the approval of the Student Senate and the Director of Student Activities. 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 illegally discriminate in membership or participation practices based upon factors related to race, religion, sex, place of origin, age, creed, handicap, marital or parental status.

Club funds may only be used for club activities which are open to all club or organization members.

## INTERCOLLEGIATE & INTRAMURAL ATHLETICS

Intercollegiate and intramural athletics play an important role in the educational process of Johnson County Community College. JCCC offers a wide range of sports and athletics for all students to participate, develop skills, and make friends during their 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 endeavors.

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 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 (NJCAA) and the Kansas Jayhawk Community College Conference. Students must meet NJCAA and conference eligibility rules to compete in intercollegiate activities.

## PHI THETA KAPPA

Phi Theta Kappa is an honorary society formed to recognize and encourage scholarship among community college students. To achieve this purpose, PTK provides the opportunity for the development of leadership, for recognition of academic achievement, for involvement in college and community service, for an intellectual climate for exchange of ideas, for fellowship for scholars, for stimulation of interest in continuing academic excellence, and for information about scholarships to four-year colleges and universities.

To be invited to become a member of PTK the full-time student must have 12 hours or more in their qualifying semester with a cumulative GPA of 3.5 or above. Part-time students may be considered if they have accumulated 36 hours (at least 14 of them at JCCC), have completed 6 hours during the qualifying semester, and obtained a cumulative GPA of 3.5 or above.

## FORENSICS

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

## 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.

## DRAMA

JCCC's Drama Department presents several full-length productions each year, and tryouts are open to all students. In addition, there are several programs of experimental one-act plays, produced and directed by students.



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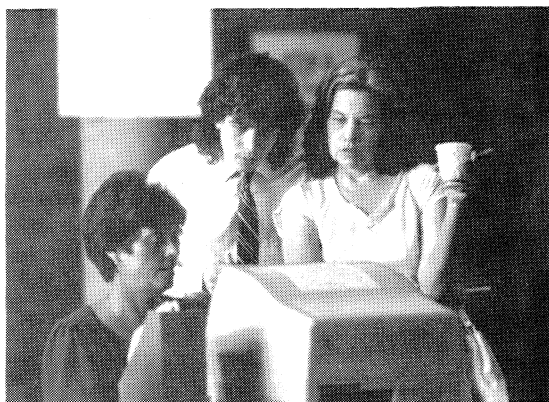
# COMMUNITY EDUCATION



**Continuing Education**  
**ABE/GED**  
**Community School Program**  
**Cultural Arts**  
**Programs For Those Over 60**  
**Business And Industry Institute**  
**Project Clear**  
**Gallaudet Regional Center**  
**Clinics For Youths**  
**Special Events**  
**Center For Continuing**  
**Professional Education**

**Tours**  
**Speakers Bureau**  
**Conferences And Workshops**  
**Extension Courses**  
**Community Use**  
**Of College Facilities**  
**Community Theater, Chorus**  
**Arts Council Of Johnson County**  
**Microcomputer Training Center**





## COMMUNITY EDUCATION

### Non-Credit Courses/Special Events

JCCC offers busy people of all ages and backgrounds, short-term courses on hundreds of current course topics – friendly, informal atmosphere, with convenient hours and locations. It's all part of Learning for Life at the College. Registration may be made by phone, mail or in person. There are no lines or waiting because Community Education enrollment is open in each course until it begins.

## BUSINESS AND INDUSTRY INSTITUTE

The Business and Industry Institute is designed to help business and industry solve training and professional development problems and stimulate economic development. The Institute offers business, industry and government groups training, research, consulting and technical assistance at a reasonable cost. Among the services offered:

**On-Site Training:** credit and non-credit courses are taught at the business site. Courses can be designed to fit the needs of individual businesses, using their own equipment and facilities so that employees can learn under actual work conditions.

**On-Campus Training:** credit and non-credit courses, seminars, workshops and programs in technology and business are offered on the JCCC campus. Courses and programs can be designed to specifications of individual businesses.

**Management and Supervisory Training:** professional, skill-oriented management and supervisory seminars and workshops are offered both on-campus and on-site at company locations.

**Professional Resources:** assistance in defining and solving company training, equipment and manpower problems.

**Economic Development:** the Institute is active in helping local, expanding industries obtain state and federal funding to pay for training, applicant testing and job skills development activities.

**Small Business Development Center:** JCCC's Small Business Development Center offers a wide range of small business services, including training programs, counseling services, applied research and library services for small business owners and potential owners in the Johnson County area. There is no charge for the counseling services and results are strictly confidential.

## CENTER FOR CONTINUING PROFESSIONAL EDUCATION

The Center for Continuing Professional Education offers a broad range of educational opportunities for professionals which are designed to update and maintain skills, provide information on current developments and innovations, and to meet mandatory continuing education requirements for relicensure or recertification. The Center offers programs for professionals in the following areas:

**Education:** early childhood teachers pre-school through grade three, primary and secondary educators.

**Fire Sciences:** firefighters and fire science administrators.

**Health and Human Services:** registered nurses, licensed practical nurses, social workers, dietitians, dental hygienists, dentists, adult care home administrators, hospital administrators, counselors, physicians, mental health technicians, psychologists.

**Law:** attorneys and paralegals.

**Others:** insurance and real estate professionals, engineers, accountants, professional groundskeepers and other occupations requiring relicensure or recertification.

## GALLAUDET UNIVERSITY REGIONAL CENTER

JCCC established the Gallaudet Regional Center in cooperation with Gallaudet University in Washington, DC – the world's only four-year liberal arts college for the deaf.

The Center serves an eight state area through workshops, seminars, conferences and consultation. It is the work of the Center to provide educational opportunities to deaf adults; develop an awareness about deafness in the hearing community; offer technical assistance to area agencies and services; and train parents, professionals, deaf adults and other interested persons. For more information, contact the Gallaudet Center.

## PROJECT CLEAR

Mentally retarded adults are offered a variety of non-credit, continuing education opportunities through College Learning Experiences for Adults with Retardation, better known as Project CLEAR. The program focuses on independent living skills and life enhancing experiences through classes offered on Saturdays and weekday evenings during the semester.

Project CLEAR also offers programs for parents of mentally retarded individuals and for other interested community members. Contact the Special Services Division for complete information.

## CONTINUING EDUCATION

Enjoy the stimulation of talented instructors and of classmates who share your interest, whether it be job skills, vocational training, professional advancement, personal enrichment, physical fitness or just the pleasure of learning.

Classes, workshops, lectures, seminars and other learning activities are for those to whom academic credit is not a priority and involve no tests, grades or required homework.

Continuing Education students are representatives of our community: employers and employees, homemakers, retirees, parents, youngsters, office and construction workers, business people and professionals.

Individuals interested in improving their on-the-job performance, developing a new skill or pursuing a leisure-time interest will find the workshop, seminars and courses offered through JCCC's Continuing Education program the answer. Courses are non-credit and are held at convenient locations throughout Johnson County. Bulletins 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	Office Skills
Arts and Crafts	Personal Development
Aviation	Practical Know-How
Childhood Education	Photography
Communications	Real Estate
Computers	Science
Dance and Exercise	Sewing
English as a Second Language	Special Interests
Family Life	Sports and Recreation
Foods	
Foreign Language	
Home Improvement	
Horsemanship	
Landscape and Gardening	
Money Management / Finance	

## ADULT BASIC EDUCATION / GENERAL EDUCATIONAL DEVELOPMENT (ABE/GED) PROGRAM

The program provides educational opportunities to persons who have not completed a high school education. Specifically, it provides individuals with the opportunity to master the English language and gain needed computational skills in order to function in today's world. In addition it provides individuals with an opportunity to obtain a high school equivalency diploma (GED).

Individuals who wish to find out if they are ready to take the GED may take the GED Practice Test in the Testing / Assessment Center. This test identifies areas of strengths and weaknesses and determines whether further study is needed before testing.

GED testing is scheduled through classes offered in convenient locations and on an individualized or small group basis through Project Finish, at our community based adult learning centers.

## CLINICS FOR YOUTH

Each year JCCC offers clinics for boys and girls from 7-16. The clinics focus on tennis, baseball, basketball, volleyball, softball and soccer.

## COMMUNITY SCHOOL PROGRAM

Johnson County residents do not have to travel far to take JCCC courses. Community school programs have been established in Olathe, co-sponsored by Olathe Unified School District 233; in Stanley-Stilwell, co-sponsored by Blue Valley Unified School District 229; in Spring Hill, co-sponsored by Spring Hill Unified School District 230; and in Gardner-Edgerton-Antioch, co-sponsored by Unified School District 231.

Each community school also has a community liaison who assists in selecting courses and who acts as link between the community and JCCC.

## EXTENSION COURSES

The College provides off-campus courses for college credit. Most credit courses offered by the College can be offered at any location if there are enough participants and the environment is conducive to learning. For more information contact the Dean of Instruction.

## **MICROCOMPUTER TRAINING CENTER**

The JCCC Microcomputer Training Center is designed to serve business and personal needs for micro-computer training.

The Center includes demonstration facilities with large screen projection; a laboratory with the IBM personal microcomputer systems and printers for individual hands-on experience; and a library of instructional software.

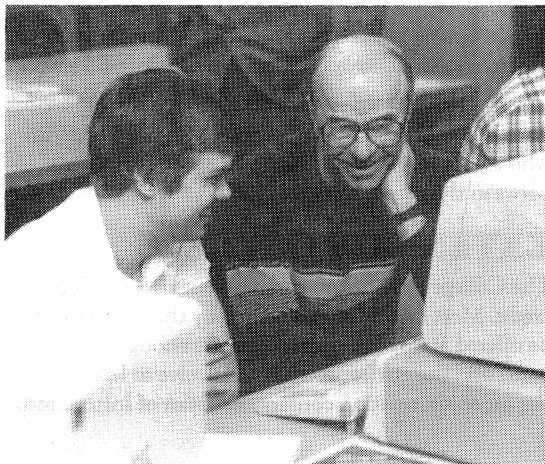
Courses are designed for practical application for your office or home.

## **ARTS COUNCIL OF JOHNSON COUNTY**

As a part of the mission to serve as a cultural center, the College is a sponsor of the Arts Council of Johnson County. An office with a part-time administrator is maintained on campus. Funding assistance is received from the Kansas Arts Commission, National Endowment for the Arts, Johnson County Park and Recreation District and the Johnson County Library. The ACJC board is a coalition of more than 25 organizations representing art, education and business. ACJC provides a quarterly arts calendar and newsletter, workshops, services and information to community arts organizations and facilities for cooperative arts programs.

## **CENTER FOR LITERARY CULTURE**

A national award winning program for writers and for those who love to read. There is an annual writers conference.



## **CITIZENS FORUMS**

Join in development, stabilization and change in the community. JCCC invites interested citizens to attend our discussions on:

- examining proposed amendments to the state constitution
- meeting and questioning candidates for political office
- exploring problems and opportunities related to youth, women, single adults, the elderly and minority groups
- discussing health services, land use, water and environment
- joining Great Decisions discussion groups focusing on foreign policy decisions
- considering today's trends in ethics and economics
- searching for values affecting individuals and society.

## **COMMUNITY THEATER, CHORUS**

The College cooperates with The Barn Payers, Inc., to bring community theater to Johnson County. An all-volunteer crew produces a summer series of five full-length plays as well as other productions and a Readers Theatre throughout the year. Training for beginning actors is offered in the fall and spring. The Senior Acting Troupe produces a series of one-act plays dealing with the concerns of aging.

The Johnson County Community Chorus rehearses weekly and presents concerts on campus and throughout the community during the academic year. Membership is by audition.

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## **COMMUNITY USE OF COLLEGE FACILITIES**

The College encourages community groups to use its facilities for meetings and activities when there is no conflict with College programs.

## **CONFERENCES AND WORKSHOPS**

The College's Community Services Division offers a wide range of services to public and private organizations including planning and arranging for seminars, conferences, institutes, short courses and workshops. The College also conducts and co-sponsors workshops and conferences with other institutions and organizations.

## **CULTURAL ARTS PROGRAMMING**

There is a rich array of cultural opportunities available in the greater Kansas City area and JCCC's cultural arts program helps you enjoy them. The programming includes classes, lectures, films, concerts and tours on a variety of subjects – architecture, antiques, anthropology, art, theater, music, photography, travel and nature. The College cooperates with local schools, colleges, institutions and organizations to offer an exciting program of cultural activities both on and off campus.

## **A PROGRAM FOR THOSE OVER 60**

Persons who have lived in Johnson County for six months prior to enrollment and who are 60 years of age or older are eligible for membership in the Brown and Gold Club. Members may register for most credit and non-credit classes at no charge on a space-available basis, although Brown and Gold members may be charged the full or reduced rates for some courses and special events. Most classes and activities have a required minimum paid enrollment which must be met before Brown and Gold Club members are enrolled. There may be charges for textbooks, course materials, food service and transportation, and many credit classes have fees in addition to tuition.

## **SPEAKERS BUREAU**

JCCC's Speakers Bureau is designed to provide various community organizations with guest speakers. The organization picks the topic, and JCCC makes the arrangements.

## **SPECIAL EVENTS**

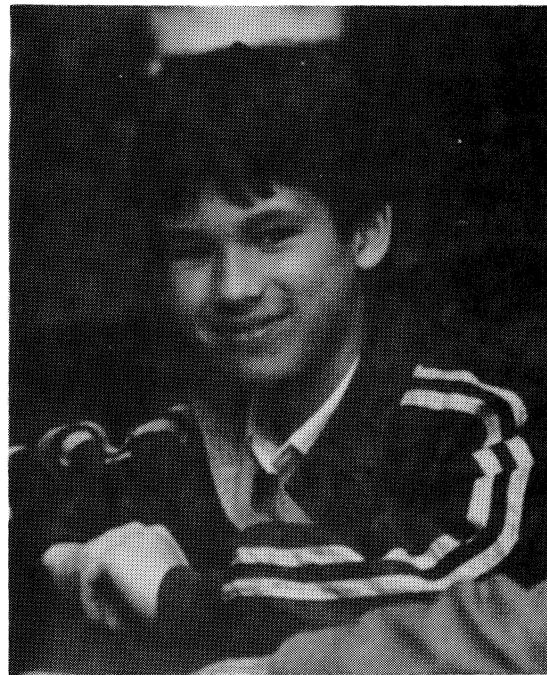
Special events attract thousands of people to the campus and to locations throughout the county each year. Among the many special events sponsored by the College are public forums, candidate forums, lectures, concerts, theater, dance, film festivals and a wide range of public service activities such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

## **TOURS**

Each semester, JCCC offers several "day trips" to nearby communities of historic or artistic interest such as Abilene, Atchison, Lexington, Weston and Jamesport. The tours usually include lunch at a colorful local restaurant. Half-day tours to artistic events, museums and other places of cultural interest are also available. In addition, foreign travel is available on a credit and no-credit basis.

## **YOUTH PROGRAM**

Classes and workshops in art, theater, language and music have been developed to stimulate creativity and expand growth. There is also a special summer program for high ability students.





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# ACADEMIC INFORMATION



**Attendance**  
**Courses By Arrangement**  
**Advanced Standing Credit**  
**Credit Transferred**  
    **From Other Institutions**  
**Grading System**  
**Honors**

**Instructional Support Services**  
    *Math Lab*  
    *Writing Center*  
    *Academic Achievement Center*  
    *Learning Strategies Program*  
**Academic Progress**  
**Transcript Records**



## ATTENDANCE

Any student who does not attend at least one session of each course for which they are enrolled, by the end of the second week of classes, will automatically be dropped.

Students will be notified by mail if they are dropped. Students who were dropped in error will have one week to be reinstated and must have an approval form signed by the appropriate division director.

Any questions on this policy should be directed to the Director of Admissions and Records at 469-3803.

Students are responsible for regularly attending classes and laboratory sessions in which they are enrolled. There is no policy that permits the lowering of grades for non-attendance. However, instructors may consider class participation, examinations and group work when determining final grades. If special attendance is required to complete a class satisfactorily, instructors will inform the students in writing at the beginning of the semester. Individuals are responsible for making up any class work or assignments if absent from class. Students receiving benefits from a government agency must follow any policies the specific agency stipulates.

## COURSES BY ARRANGEMENT

JCCC courses by arrangement are for those students who find it impossible or undesirable to attend regular courses on campus. Those individuals may complete a course by arrangement out of the classroom and on a schedule arranged with the instructor. Before enrolling in a course by arrangement, contact the instructor (or the division director if the instructor is unavailable) who can advise the student on how much instructor-contact the course requires and how performance is measured. See the Credit Class Schedule for the courses available by arrangement each semester.

### Independent Study

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

## 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, with the exception of transfer credit, will be included on the student's permanent record after one course has been completed in residence at the College. Credit will not be awarded if: a) a student has successfully completed college courses representing the same content; or b) a student has been awarded credit through other non-traditional programs in areas representing the same content area.

### Proficiency Examinations

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

### Military Credit

Credit will be granted for educational experience completed while in the armed services if the student has completed a minimum of one year's continuous active duty. Applicants submitting DD form 214, Armed Forces of the United States Report of Transfer of Educational Achievement through the United States Armed Forces Institute (USAFI) will 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. The Testing / Assessment Center will determine the acceptability of military credit.

### National Standardized Tests

The College will grant credit to students who can demonstrate equivalent knowledge and skill contained in undergraduate college courses through national standardized testing programs. Credit will be awarded only in subject areas where JCCC offers comparable courses. A fee will be charged for those examinations.

A student transferring to JCCC with credit awarded by another college for national standardized tests must submit an official score report to the Testing / Assessment Center to validate credit previously awarded.

### Assessment of Prior Learning

Credit may be granted to a student who has acquired knowledge and skills equivalent to college courses through prior learning experiences. Credit may be awarded only in subject areas where JCCC offers comparable courses. The Testing / Assessment Center will coordinate the assessment of prior learning. A fee will be charged for each course.

## CREDIT TRANSFERRED FROM OTHER COLLEGES

Transfer credits will be accepted from colleges and universities that 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 student's cumulative G.P.A. Quality points and grade points will be transferred and will be averaged into the grade point earned at the College.

## GRADING SYSTEM

Johnson County Community College utilizes the following grades to indicate the level of student achievement of the educational objectives of a course:

- 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 student's GPA)
- F – no credit, unsatisfactory achievement
- W – withdrawal without academic assessment (A student may withdraw from a class up to one week before the last day of the semester. The student will receive a "W" on his / her transcript if he / she withdraws after the official state reporting date of the 20th day of class during a regular semester or after one-fourth of the summer or mini-session has been completed. A student will be considered withdrawn from a class only after the drop form has been completed in the Admissions & Records Office – not when the student stops attending class.)

- I – incomplete (A student will receive this grade only if special circumstances prevent him / her from completing the course. A student cannot re-enroll in the class, but must complete all course work by the end of the following semester or term. An "I" will be changed to "F" if the instructor does not initiate a grade change by the end of the semester following the grading period for which the "I" was given.)
- R – repeated course (Whenever a student repeats a course only the latter grade earned will be used in computing the student's grade point average. The earlier grade for the course will be changed to "R" with the exception of the "W" grade.)

### Pass / Fail Grading System

Students may wish to choose a pass / fail option if they want to explore courses outside their range of subject matter.

A counselor's approval is required before a student chooses the pass / fail system. A student will be allowed to enroll in only one course a semester under this option. If this option is chosen, the student will complete a form in the Counseling Center prior to the eighth week of the fall and spring semesters, the fourth week of the summer session, and the first week of the mini-sessions.

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 may penalize you.

### Grade Point Average

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

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

### Grade Changes

Grade changes must be submitted to the Admissions & Records Office within one (1) semester of the student's initial enrollment in the course. Request for a grade change must be made in writing and approved by the Dean of Instruction. Additional information and forms may be obtained in the Admissions & Records Office.

## HONORS

The name of any student who enrolls in and completes a minimum of six credit hours and earns an overall grade point average of 3.5 or higher during any semester will appear on the Part-time Honor Roll list. Any student who enrolls in and completes a minimum of 12 credit hours and earns an overall grade point average of 3.5 to 3.99 will appear on the Dean's List. Any student who enrolls in and completes a minimum of 12 credit hours and earns an overall grade point average of 4.0 will appear on the President's List.

## INSTRUCTIONAL SUPPORT SERVICES

### Math Lab

The Math Lab offers individualized instruction and personal assistance to help students develop skills. The materials cover most topics in Introduction to Algebra, Intermediate Algebra, College Algebra and Trigonometry. An instructor is available to assist students. For more information contact the Math Lab located in 223 EMC.

### Writing Center

The Writing Center is designed to assist students in improving their writing skills. Students work at their own pace on proofreading, researching, writing sentences, composing paragraphs or other areas in which the student may need improvement. An instructor is available to assist students. For more information contact the Writing Center, located in 225 EMC.

### Academic Achievement Center

The Academic Achievement Center helps to develop some basic skills through individualized instruction, small classes and a tutor exchange. Instructors will help plan a program of study and offer guidance as needed. Students may work in any of the following areas:

- 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

### Learning Strategies Program

This program offers students an opportunity to acquire the thinking and learning skills they need to be successful learners. The program benefits a variety of students, including those successful students who want to improve their learning efficiency, as well as those who feel overwhelmed by the demands of college coursework. The information learned in each of the Learning Strategies Program courses will improve students' performance in the other courses they are taking. For more information contact the Learning Strategies Program located in 223 EMC.

## TRANSCRIPT RECORDS

A student's academic record of course work completed at the College will be maintained in the Admissions & Records Office. Transcripts will be released only after receipt of a written request signed by the student. Transcripts issued directly to the student will be marked "Student Copy."

Transcripts will not be released for students who failed to submit required prior college transcripts. Students with past due obligations to the College may not register for classes or have transcripts sent until their accounts are resolved to the satisfaction of the College.

Official transcripts from other institutions cannot be released to any individual or institution. Copies designated "issued to students" may be released to students for advisement purposes.

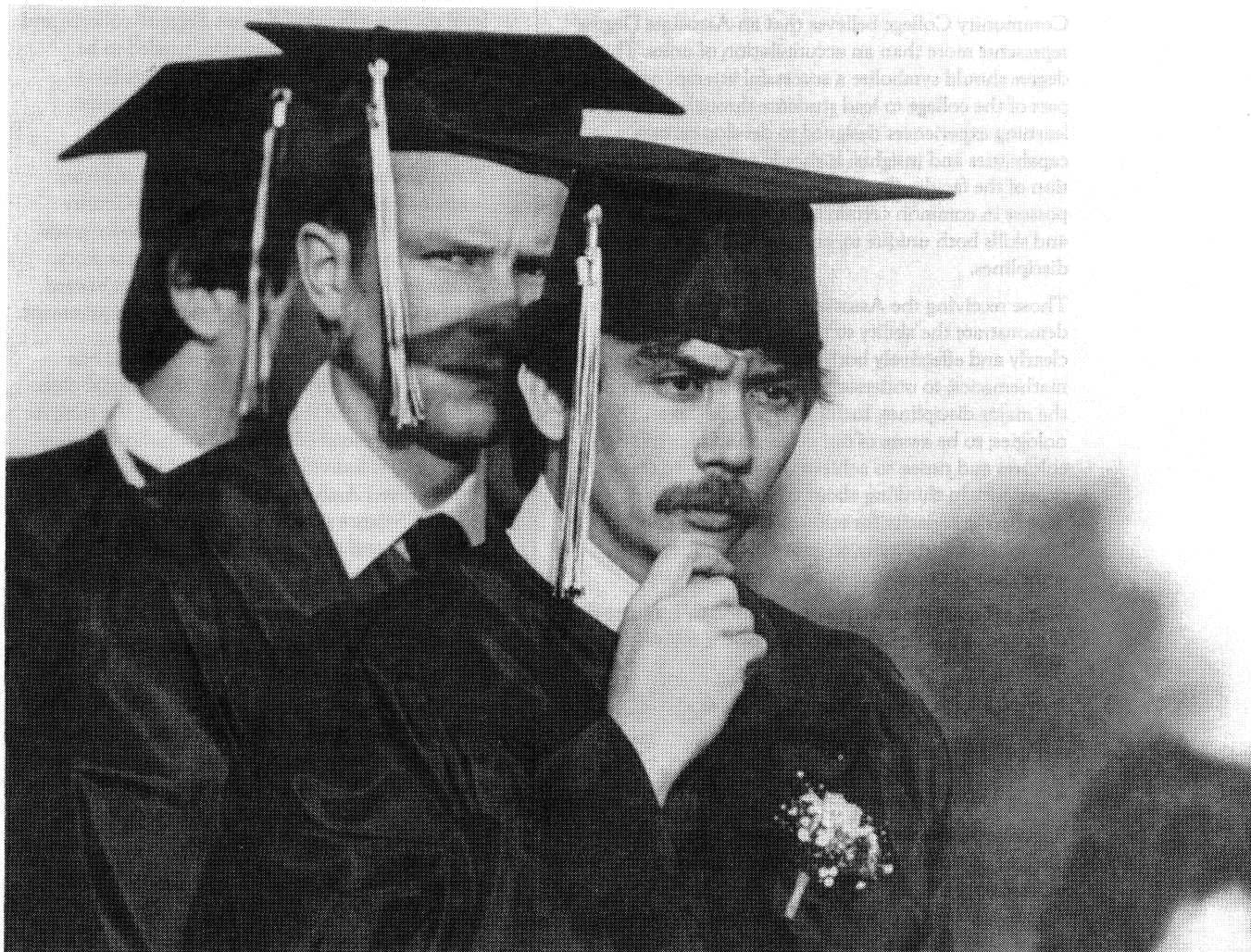
## ACADEMIC PROGRESS

If satisfactory academic progress is not being made, contact a counselor. A counselor will help reassess the student's program, motives, interests and aptitudes in helping to decide whether a change in program is needed or additional assistance should be applied. Here are JCCC's guidelines for "satisfactory academic progress":

Number of Successfully Completed Hours	Minimum Cum. GPA
1-8	1.0
9-16	1.2
17-24	1.4
25-32	1.6
33-40	1.7
41-48	1.8
49-56	1.9
57-64	2.0

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# GRADUATION REQUIREMENTS



**Associate Degrees**  
**Associate Of Arts**  
**Associate Of Science**  
**Associate Of Applied Science**  
**Certificate Programs**  
**Graduation With Honors**  
**Commencement Exercises**

## 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 both 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.

Students must file a written application to graduate in the Admissions & Records Office by the following dates:

- Nov. 1 for fall graduation
- April 1 for spring graduation
- July 15 for summer graduation

Requests for deadline extensions may be made to the director of Admissions & Records in the form of a written appeal.



## ASSOCIATE DEGREES

- An Associate Degree is earned when a student successfully completes a minimum of 64 hours of college credit courses in an approved educational program. These courses shall be comparable to lower division level courses offered at Kansas Regents' colleges and universities. Prerequisite courses needed to be completed prior to enrollment in college level courses will not count toward fulfilling degree requirements.
- A student must earn a minimum of 15 semester hours of credit in residence at Johnson County Community College and earn a cumulative grade point average of 2.0 or better on all course work. Advanced standing credits will not count toward satisfying the 15 credit hours residency requirement.
- An approved Associate of Arts program is one designed specifically to meet the educational objectives and needs of the student through the completion of the general education distribution requirements and is individually approved by the counselor. 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 the educational objectives and needs of the student.
- A student must be enrolled in the college at the time he/she anticipates completing degree requirements and files an intent to graduate form. A student may complete the requirements for a degree at the end of each term or semester. The degree status will be recorded on the student's permanent transcript record upon certification of completion of the graduation requirements.
- Competency in the basic skills – reading, writing, and computation – is essential for individuals to function effectively in collegiate programs. The following minimum requirements must be met by students who complete degrees:
  - Minimum proficiency in reading and writing, either at the original assessment, a subsequent assessment, or in courses which address these competencies prior to enrolling in degree-specific courses.
  - Minimum proficiency in computational skills, either at the initial assessment, a subsequent assessment, or in courses which address these competencies prior to enrolling 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 non-computer areas and to increase the use of computers in more traditional, computer-using areas.

- In addition to demonstrating the basic skills competencies, students 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 the facility for 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 the Associate of Applied Science degree requirements become effective for all new students for the 1985 fall semester. Currently enrolled students at the time of implementation have the option to complete degree requirements in effect prior to this policy change if they maintain continuous enrollment in at least one class during each regular semester, except for programs with selective admission requirements. Graduation requirements listed in this catalog for selective admission programs will be in effect for students accepted in the program beginning Fall, 1986.

Students are considered continuously enrolled if they complete at least one class during each regular Fall and Spring semester. If a student does not maintain continuous enrollment, the student will be required to follow the graduation requirements that are in effect at the time of re-enrollment.

## ASSOCIATE OF ARTS DEGREE

The 64 hours of credit necessary to complete the Associate of Arts Degree shall include the following:

Communications .....	9 hours
Social Science and/or Economics .....	6 hours
Humanities and/or Art .....	6 hours
(History is included in this category)	
Science and/or Mathematics .....	9 hours
(must include one course from 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.

The 64 hours of credit shall include the following general education distribution requirements:

1. Communications ..... 9 hours  
(must include Composition I and II and either Interpersonal Communications, Public Speaking or Personal Communication.)
2. Social Science and/or Economics ..... 6 hours  
No more than one course from each of the following categories may count toward the 6 required hours.

#### Economics

Basic Economics  
Economics I  
Economics II

#### Political Science

American National Government  
International Relations:  
    The Politics of War and Peace  
Introduction to Comparative Government:  
    Nations and Political Issues  
Introduction to Political Science:  
    People, Power and Politics  
State and Local Government:  
    Community Issues and Government

#### Psychology

Applied Psychology  
Introduction to Psychology

#### Sociology

Social Problems  
Marriage and Family  
Sociology

#### Anthropology

Cultural Anthropology  
Physical Anthropology  
World Cultures

3. Humanities and/or Art ..... 6 hours  
No more than one course from each of the following categories may count toward the 6 required hours.

#### Humanities and Art

Introduction to Art History  
Modern Art History  
Comparative Cultures  
Introduction to Humanities  
Introduction to Jazz Listening  
Introduction to Music Listening  
History of Photography  
Issues of Contemporary Photography



History

European History  
Local and Kansas History  
Modern Russian History  
U.S. History to 1877  
U.S. History since 1877  
Western Civilization I  
Western Civilization II  
Eastern Civilization

Literature/Theater

Poetry and Drama  
Introduction to Fiction  
American Writers  
World Masterpieces  
Masterpieces of the Cinema  
Introduction to Theater  
British Writers

Philosophy

Ethics  
History of Ancient Philosophy  
Introduction to Philosophy  
Logic  
Philosophy of Current Civilization  
Philosophy of Religion

Foreign Language

Intermediate and Advanced Spanish  
Intermediate and Advanced French  
Intermediate and Advanced German

4. Science and Mathematics . . . . . 9 hours  
(must include one course from a lab Science and one from Mathematics)

The mathematics requirement will be satisfied by any of the following courses: College Algebra, Trigonometry, Statistics, Analytic Geometry-Calculus I, or Calculus I.

The science requirement will be satisfied by any of the following:

Physical Science

Astronomy  
Engineering Physics I  
Engineering Physics II  
General Chemistry I Lecture and Lab  
General Chemistry II Lecture and Lab  
General Geology  
General Physics I  
General Physics II  
Introduction to Quantitative Analysis  
Physical Science  
Principles of Chemistry  
Principles of Organic Chemistry



Life Science

Biology of Organisms  
Environmental Science and Lab  
General Botany  
General Zoology  
Human Anatomy  
Human Anatomy and Physiology  
Human Physiology  
Life Science  
Microbiology and Lab  
Principles of Biology and Lab

5. Health and / or Physical Education . . . . . 1 hour

This requirement will be satisfied by any of the physical education activity courses, Sports Officiating, and by any beginning level equestrian riding course. It will also be satisfied by any of the following:

CPR I-Basic Rescuer  
Nutrition and Meal Planning  
Introduction to Physical Development  
Lifetime Fitness  
Individual Lifetime Sports  
Personal Health and Community Hygiene  
First Aid and CPR  
Fundamentals of Athletics

Career Programs that offer an Associate of Arts Degree are:

Administration of Justice  
Nursing

This is the degree that will be earned by most students transferring to four year colleges and universities.

## ASSOCIATE OF SCIENCE DEGREE

The 64 hours of credit necessary to complete the Associate of Science Degree shall include the following general education distribution requirements:

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

**Specific Courses** that meet the Associate of Science Degree requirements are as follows.

1. Communications . . . . . 6 hours  
Composition I and one of the following courses:  
Composition II, Technical Writing, Business Communications, Public Speaking, Interpersonal Communications or Personal Communication.
2. Social Science and/or Economics . . . . . 3 hours  
One course from any of the following categories may count toward the three required hours.

### Economics

- Basic Economics
- Economics I
- Economics II

### Political Science

- American National Government
- International Relations:
  - The Politics of War and Peace
- Introduction to Comparative Government:
  - Nations and Political Issues
- Introduction to Political Science:
  - People, Power and Politics
- State and Local Government:
  - Community Issues and Government

### Psychology

- Applied Psychology
- Introduction to Psychology

### Sociology

- Social Problems
- Marriage and Family
- Sociology

### Anthropology

- Cultural Anthropology
- Physical Anthropology
- World Cultures

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

### Humanities and Art

- Introduction to Art History
- Modern Art History
- Comparative Cultures
- Introduction to Humanities
- Introduction to Jazz Listening
- Introduction to Music Listening
- History of Photography
- Issues of Contemporary Photography

### History

- European History
- Local and Kansas History
- Modern Russian History
- U.S. History to 1877
- U.S. History since 1877
- Western Civilization I
- Western Civilization II
- Eastern Civilization

### Literature/Theater

- Poetry and Drama
- Introduction to Fiction
- American Writers
- World Masterpieces
- Masterpieces of the Cinema
- Introduction to Theater
- British Writers

### Philosophy

- Ethics
- History of Ancient Philosophy
- Introduction to Philosophy
- Logic
- Philosophy of Current Civilization
- Philosophy of Religion

### Foreign Language

- Intermediate and Advanced Spanish
- Intermediate and Advanced French
- Intermediate and Advanced German

4. Science and Mathematics . . . . . 12 hours  
(must include one course in Mathematics and one in a Lab Science.) The mathematics requirement will be satisfied by any mathematics course except Fundamentals of Mathematics, Introduction to Algebra and Intermediate Algebra.

The laboratory science requirement will be satisfied by any of the following courses.

Life Science

- Biology of Organisms
- Principles of Biology and Lab Life Science
- General Botany
- Environmental Science and Lab
- Human Anatomy
- Human Anatomy and Physiology
- Human Physiology
- Microbiology and Lab
- General Zoology

Physical Science

- Astronomy
- Energy Alternatives
- Engineering Physics I
- Engineering Physics II
- General Chemistry I Lecture and Lab
- General Chemistry II Lecture and Lab
- General Geology
- General Physics I
- General Physics II
- Introduction to Quantitative Analysis Physical Science
- Principles of Chemistry
- Principles of Organic Chemistry
- Technical Physics I
- Technical Physics II

Any remaining hours in this requirement beyond the one math and one lab science requirement may be satisfied by taking additional courses from the above list of approved math and lab science courses or by any course on the approved Associate of Arts degree list in this catalog with the addition of Pathophysiology and General Nutrition, or Energy Alternatives (a technology option).

- 5. Health and/or Physical Education . . . . . 1 hour  
 Recommendation: This requirement will be satisfied by any of the physical education activity courses, Sports Officiating, and by any beginning level equestrian riding course. It will also be satisfied by any of the following:

- CPR I-Basic Rescuer
- Nutrition and Meal Planning
- Introduction to Physical Education
- Lifetime Fitness
- Individual Lifetime Sports
- Personal and Community Health
- First Aid and CPR
- Fundamentals of Athletics

The Associate of Science Degree is offered only for the following career programs:

- Biomedical Equipment Technology
- Civil Engineering Technology
- Computer Systems Technology
- Dental Hygiene
- Drafting Technology
  - Civil Option
  - Machine Option
- Electronic Engineering Technology
- Emergency Medical Science
- Fire Protection Administration
- Fire Prevention
- Fire Protection
- Nursing
- Pre-Engineering
- Respiratory Therapy

Additional programs may offer the AS degree in the future. Consult a counselor for questions about particular program degree requirements.

## **ASSOCIATE OF APPLIED SCIENCE**

The 64 hours of credit necessary to complete the Associate of Applied Science degree shall include the following general education distribution requirements:

- Communications . . . . . 3 hours
- Social Science and/or Economics . . . . . 3 hours
- Humanities and/or Art . . . . . 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 as follows:

1. Communications . . . . . 3 hours  
 Composition I
2. Social Science and/or Economics . . . . . 3 hours  
 Recommendation: One course from any of the following categories may count toward the three required hours.

Economics

- Basic Economics
- Economics I
- Economics II

Political Science

- American National Government
- The Politics of War and Peace
- Nations and Political Issues
- People, Power and Politics
- Community Issues and Government

Psychology

Applied Psychology  
Introduction to Psychology  
Sociology  
Social Problems  
Marriage and Family  
Sociology

Anthropology

Cultural Anthropology  
Physical Anthropology  
World Cultures

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

Humanities and Art

Introduction to Art History  
Modern Art History  
Comparative Cultures  
Introduction to Humanities  
Introduction to Jazz Listening  
Introduction to Music Listening  
History of Photography  
Issues of Contemporary Photography

History

European History  
Local and Kansas History  
Modern Russian History  
U.S. History to 1877  
U.S. History since 1877  
Western Civilization I  
Western Civilization II  
Eastern Civilization

Literature/Theater

Poetry and Drama  
Introduction to Fiction  
American Writers  
World Masterpieces  
Masterpieces of the Cinema  
Introduction to Theater  
British Writers

Philosophy

Ethics  
History of Ancient Philosophy  
Introduction to Philosophy  
Logic  
Philosophy of Current Civilization  
Philosophy of Religion

Foreign Language

Intermediate and Advanced Spanish  
Intermediate and Advanced French  
Intermediate and Advanced German

4. Science and/or Mathematics . . . . . 3 hours  
Any mathematics course except Fundamentals of Mathematics will satisfy this requirement.

The science requirement will be satisfied by any of the following courses.

Physical Science

Astronomy  
Engineering Physics I  
Engineering Physics II  
General Chemistry I Lecture and Lab  
General Chemistry II Lecture and Lab  
General Geology  
General Physics I  
General Physics II  
Introduction to Quantitative Analysis  
Physical Science  
Principles of Chemistry  
Principles of Organic Chemistry

Life Science

Biology of Organisms  
Environmental Science and Lab  
General Botany  
General Zoology  
Human Anatomy  
Human Anatomy and Physiology  
Human Physiology  
Life Science  
Microbiology and Lab  
Principles of Biology and Lab

5. Health and/or Physical Education . . . . . 1 hour

Recommendation: This requirement will be satisfied by any of the physical education activity courses, Sports Officiating, and by any beginning level equestrian riding course. It will also be satisfied by any of the following:

CPR I-Basic Rescuer  
Nutrition and Meal Planning  
Introduction to Physical Education  
Lifetime Fitness  
Individual Lifetime Sports  
Personal and Community Health  
First Aid and CPR  
Fundamentals of Athletics

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An Associate of Applied Science Degree can be awarded only for the following career programs:

Accounting  
Automotive Technology  
Business Administration  
Chef Apprenticeship  
Commercial Art  
Data Processing  
Electronic Engineering Technology  
Emergency Medical Science  
Energy Technology  
Equine Studies  
Fashion Merchandising  
Hospitality Management  
Information / Word Processing  
Interior Merchandising  
Interpreter Training  
Manufacturing Technology  
Marketing and Management  
Paralegal  
Recreational Leadership  
Secretarial Careers  
    Administrative Office Management  
    Medical Secretary  
    Legal Secretary

## **CERTIFICATE OF COMPLETION**

To earn a Certificate of Completion at Johnson County Community College a student must have demonstrated the basic skills competencies as outlined. In addition, the student must successfully complete an approved certificate program with a cumulative grade of 2.0 or better. Fifteen hours must be earned in residence at Johnson County Community College, and the student must be enrolled at the College during the time he / she anticipates completing certificate requirements. An application to complete certificate requirements must be filed in the Admissions & Records Office.

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

### **Approved Certificate Programs are:**

#### **Vocational Certificates**

Emergency Medical Technician  
Mobile Intensive Care Technician  
Secretarial Careers

#### **Postsecondary Certificates**

Automated Manufacturing  
Minor Automotive Repair Mechanic  
Major Automotive Repair Mechanic  
Emergency Services Dispatcher  
Energy Technology  
Fire Prevention  
Manufacturing Technology  
Metal Fabrication

## **GRADUATION WITH HONORS**

A student who earns a cumulative grade point average of 3.5 or higher in all college credit courses completed will be graduated with honors or awarded a certificate with honors.

## **COMMENCEMENT EXERCISES**

Diplomas and Certificates will be awarded to students who have successfully completed their 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. Students who have completed degree or certificate requirements in prior semesters or terms will be invited to participate in commencement exercises.

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# PROGRAMS OF STUDY



## **Transfer Programs**

*Individual Transfer Programs*

*University Transfer Programs*

*For Undecided Majors*

*Courses For Undecided Majors*

**University Transfer Programs**

**International Education**

**Travel For Credit**

**Courses By Television**

**Career Programs**

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## 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, students should consult with a JCCC Counselor to be sure the courses are applicable to the degree they are seeking.

JCCC offers the first two years of most college baccalaureate degree programs. Students can attend JCCC for their first two years, earn an Associate of Arts degree and then transfer to a four-year institution without loss of time or credit. Students 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 Majors, and the University Transfer Program.

### Individual Transfer Program

Students who plan to attend a four-year college or university or choose a major not listed under University Transfer Programs may work with a counselor to develop their own Individual Transfer Program. Examples might include degrees such as:

- Administration of Justice
- Agricultural Engineering
- Atmospheric Science
- Pre-Chiropractic
- Geology
- Geophysics
- Industrial Engineering
- Pre-Optometry

### University Transfer Program For Undecided Majors

Students who are planning to transfer, but have not decided upon a major or chosen a four-year school,

should select courses from the general education requirement areas as illustrated in the Sample Four-Year Program. These courses will come from the five divisions listed on the following pages. The number of courses required in each division will depend on the four-year college or university.

124-128 hours total for most degrees.

Students who are still undecided about a major in their second year should work closely with a Counselor to assist in their decision making and enable them to transfer without loss of time or credit.

### Course Suggestions For Undecided Majors

#### Communications (3-4 courses)

ENGL 121 Composition I ..... 3  
 ENGL 122 Composition II ..... 3

The next 3-6 hours could be Speech and/or Literature depending on your major.

SPD 120 Interpersonal Communications ..... 3  
 SPD 121 Public Speaking ..... 3  
 SPD 125 Personal Communication ..... 3

Composition II is a prerequisite for the following literature and composition courses:

ENGL 222 Advanced Composition ..... 3  
 ENGL 230 Introduction to Fiction ..... 3  
 ENGL 231 American Writers ..... 3  
 ENGL 232 Children's Literature ..... 3  
 ENGL 241 British Writers ..... 3  
 ENGL 243 Literature of Science Fiction ..... 3  
 ENGL 250 World Masterpieces ..... 3  
 ENGL 252 Poetry and Drama ..... 3  
 ENGL 254 Masterpieces of the Cinema ..... 3

Some degrees (BA) may require foreign language. JCCC offers four semesters / 16 hours each of Spanish, French and German. Two semesters of Russian are offered.

## SAMPLE FOUR-YEAR PROGRAM

### Freshman-Sophomore Years

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

### Junior-Senior Years

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

FL	120	Elementary German I	5
FL	130	Elementary Spanish I	5
FL	140	Elementary French I	5
FL	150	Elementary Russian I	5

**Mathematics (1 course)**

At least one math course usually is required. If you are unsure of your skills, take the Math Assessment Test in the Testing Center to determine proper course selection.

MATH	160	Algebra	3
MATH	171	College Algebra	3
MATH	172	Trigonometry	3
MATH	231	Calculus I	3
MATH	241	Analytic Geometry-Calculus I	5

**Humanities (2-3 courses)**

You may use literature courses as humanities credits.

HUM	122	Introduction to Humanities	3
HUM	133	Comparative Cultures	3
HUM	144	Introduction to Art History	3
HUM	147	Modern Art History	3
MUS	121	Introduction to Music Listening	3
MUS	125	Introduction to Jazz Listening	3
PHIL	121	Introduction to Philosophy	3
PHIL	132	Logic	3
PHIL	143	Ethics	3
PHIL	165	Philosophy of Current Civilizations	3
PHIL	176	Philosophy of Religion	3
HIST	120	Local and Kansas History	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	160	Modern Russian History	3
THEA	120	Introduction to Theater	3

**Social Sciences (2-3 courses)**

History courses will transfer as humanities credits to some schools.

ANTH	125	Cultural Anthropology	3
ANTH	126	Physical Anthropology	3
ANTH	130	World Cultures	3
SOC	122	Sociology	3
SOC	125	Social Problems	3
SOC	131	Marriage and Family	3
PSYC	130	Introduction to Psychology	3
PSYC	215	Child Development *	3
PSYC	220	Social Psychology *	3
PSYC	230	Personality Theory *	3
POLS	122	Political Science: People, Power and Politics	3

POLS	124	State and Local Government: American National Government	3
POLS	126	International Relations: Community Issues and Government	3
POLS	135	The Politics of War and Peace	3
ECON	230	Economics I	3
ECON	231	Economics II	3

**Natural Sciences (2-3 courses)**

All schools require at least one lab science. Some majors require both a biological and a physical science.

**Biological Sciences**

BIOL	120	Life Science (AVT Lab incl.)	4
		OR	
BIOL	122	Principles of Biology	3
BIOL	123	Principles of Biology Lab	1
BIOL	125	General Botany	5
BIOL	127	General Zoology	5
BIOL	130	Environmental Science	3
BIOL	131	Environmental Science Lab	1
BIOL	140	Human Anatomy	4
BIOL	144	Human Anatomy/Physiology	5
BIOL	150	Biology of Organisms	5
BIOL	205	General Genetics (no lab)	3
BIOL	225	Human Physiology *	4
BIOL	230	Microbiology *	3
BIOL	231	Microbiology Lab *	2

**Physical Science**

CHEM	122	Principles of Chemistry	5
CHEM	124	General Chemistry I *	4
CHEM	125	General Chemistry I Lab *	1
PHYS	130	General Physics I *	5
PHYS	220	Engineering Physics I *	5
PSCI	120	Physical Science (AVT Lab incl)	4
PSCI	122	Astronomy	4
PSCI	130	General Geology	5
PSCI	132	Historical Geology	5
PSCI	140	Physical Geography	3
PSCI	141	Physical Geography Lab	2

\* Check a JCCC catalog for prerequisites

The following is an example of a first-year program plan for a liberal arts transfer student. Students interested in architecture, fine arts, engineering, science or medicine should talk with a JCCC Counselor.

First Semester	Credits
Composition I	3
Social Science Elective	3
Math/Natural Science Elective	5
Humanities Elective	3
General Elective	3

<b>Second Semester</b>	<b>Credits</b>
Composition II .....	3
Speech Elective .....	3
Math/Natural Science Elective .....	5
Social Science/Humanities Elective .....	3
General Elective .....	3
	<b>15-17</b>

## UNIVERSITY TRANSFER PROGRAMS

Copies of University Transfer Programs are available in the Counseling Office for the following majors:

<b>Agriculture</b>	Music
<b>Business</b>	Philosophy
Accounting	Speech
Business Administration	Theater
Finance	<b>Medicine and Health</b>
Information Systems	Pre-Dental
Legal Assistant	Pre-Med
Marketing	Medical Technology
Personnel	Occupational Therapy
<b>Education</b>	Pharmacy
Early Childhood	Physical Therapy
Elementary/Secondary	Nursing
Music Education	Veterinary
Physical Education	<b>Social Science</b>
Recreation	Anthropology
<b>Engineering</b>	Economics
Chemical	History
Ceramic	Political Science
Construction Science	Psychology
Electrical	Social Work
Geological	Sociology
Mechanical	<b>Science and Math</b>
Metallurgical	Biology
Mining	Chemistry
Petroleum	Computer Science
<b>Home Economics</b>	Geology
Dietetics	Mathematics
Clothing & Textile	Physics
Fashion Merchandising	<b>Technology</b>
General Home Economics	Automotive Technology
Interior Design	Civil Engineering
<b>Liberal Arts</b>	Technology
Art	Computer Systems
English	Technology
Foreign Language	Electronic Engineering
Journalism	Technology
	Industrial Administration

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

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

Since the four-year schools do change degree requirements, students are encouraged to check periodically for updates in the Counseling Office. Students should realize that not all majors are available at all colleges.

## TRANSFER INFORMATION

The JCCC Counseling Center serves as a resource center for students who are planning to transfer. The counselors are available to work with students in planning their academic program and assisting them in making decisions that enable a successful transfer. Students may find the following information in the JCCC Counseling Center:

- Transfer programs for different majors at area colleges – check these sheets periodically for updates
- General information including 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

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## HONORS PROGRAM

The Honors Program provides a new curriculum to challenge and stimulate academically talented students. New honors courses will meet general education requirements for all fields of study at the College and will help students develop as intellectuals, as college students and as members of the community.

There are three components to the Honors Program.

1. Honors Contracts – These will permit students to earn additional credit for meritorious work beyond regular requirements.
2. Forums – Beginning in the fall of 1987, three nationally recognized speakers will be invited to campus. Lectures will form the basis for an honors course that includes seminars, a reading list, class sessions and a final project.
3. Interdisciplinary Courses – This concept will permit one course per semester to be taught over a broad subject area with instructors and conceptual material from several disciplines. It will encourage inquiry, discovery and critical thinking and require extensive student participation.

For admission to the Honors Program, each student must do the following:

Present an official transcript upon application: Show proof of academic excellence by having a 3.5 high school GPA (for students who completed high school in the last 5 years) or a 3.5 college GPA for the most recent year of college or a 25 composite on ACT, or a 1110 composite on SAT, or equivalent score on a standardized test within the last 5 years or other evidence which indicates the ability to do honors work, such as creative writing, demonstrated research skills, endorsement letters, artistic skills or a portfolio.

Have an orientation meeting with the Honors Coordinator.

Academic standards will be expected to be maintained by students to remain in the Honors Program and special graduation requirements will be developed for students who complete the program.

For additional information, please contact the Honors Program Coordinator.

## INTERNATIONAL EDUCATION

International education at JCCC spans the entire range of College activities from credit and non-credit courses and independent study to travel-for-credit. It has even touched the athletic events at the College – JCCC has hosted Asian basketball and baseball teams.

The curriculum reflects the international education effort with classroom instruction offered in Spanish, French and German and through self-study courses in Chinese and Japanese. In addition, international approaches are evident in courses in such areas as sociology, social problems, anthropology, history, political science, international relations and in some business and economics courses.

As a part of the international relations program JCCC maintains a sister college relationship with two colleges in Taiwan: the Taichung Institute of Commerce and the Taiwan Academy of Arts. An active faculty exchange program brings professionals from other countries to JCCC classrooms.

## TRAVEL-FOR-CREDIT

In a travel-for-credit class, students 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. A list of travel-for-credit courses offered each semester is available in the Credit Class Schedule.

## SELF-PACED STUDY

Courses are available on a self-paced schedule of study that allows students to enroll in the course at any time during the semester and to take up to a calendar year to complete course requirements. Enrollment requires completion of a Self-Paced Study Contract which may be obtained in the division office listed for the course. Students are required to meet with the sponsoring instructor to complete the contract and obtain course materials.

With self-paced study, students can set their own pace of learning and may complete the course requirements as rapidly or as leisurely as they care to. Other than the one-year limit, there are no restrictions on the time students may take to complete a unit or the entire course. For additional information contact the appropriate division office.

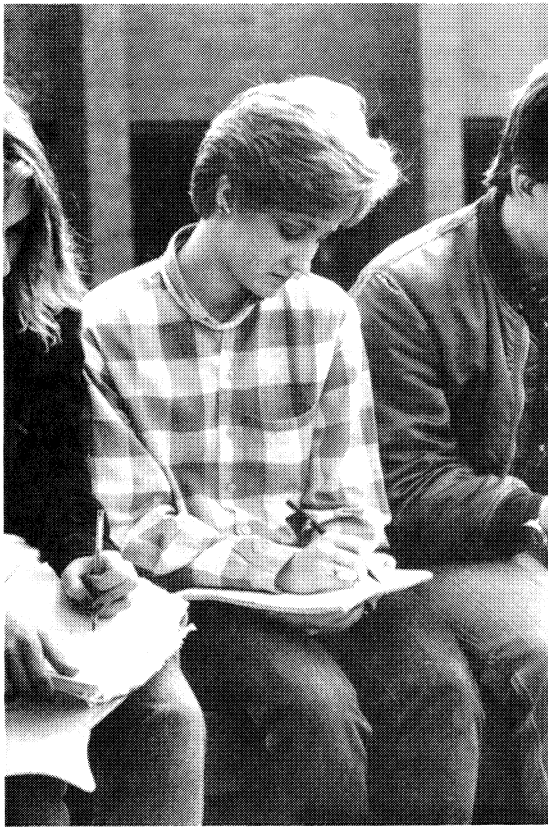
## COURSES BY TELEVISION

Each semester JCCC offers telecourses which make it possible to earn college credit in the home. Non-credit telecourses are also offered. Each lesson is shown several different times a week – students pick the time most convenient. And if a lesson is missed, it may be viewed on a videotape in the JCCC library or VCR (VHS only) tape cassettes may be rented to view at home.

Students need not come to campus except for a few scheduled class meetings and for exams.

Students may apply college credits earned through telecourses to the Associate Degree program and in most cases these credits will transfer to other colleges. Students may be either full- or part-time and there is no limit to the number of telecourses that may be taken.

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 a student has questions during the semester, a JCCC instructor will be just a phone call away.



## CAREER PROGRAMS

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

Each program has been designed with the assistance of a community advisory committee composed 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 curriculums 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 Office. Several of the career programs enable the student to gain valuable work experience in the community while taking the career program courses.

If you are interested in a career program contact a JCCC counselor for more information. Counselors can assist students in considering program 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.

Career programs are described in detail on the following pages, and in the career brochures available in the Counseling Office. Students are encouraged to see a counselor before enrolling.

Most of JCCC's 43 career programs can be completed in two years or less. The career programs now offered are:

- Accounting
- Administration of Justice:
  - Law Enforcement Option
  - Corrections Option
- Animal Health Technology
- Automotive Technology
- Aviation Maintenance Technology:
  - Air Frame Option
  - Power Plant Option
- Biomedical Equipment Technology
- Business Administration
- Chef Apprenticeship
- Civil Engineering Technology
- Commercial Art
- Computer Systems Technology
- Data Processing
- Dental Hygiene
- Drafting Technology:
  - Civil Option
  - Machine Option
- Electronic Engineering Technology
- Emergency Medical Science:
  - Mobile Intensive Care Technician (MICT)
- Energy Technology
- Equine Studies
- Fashion Merchandising
- Fire Science:
  - Fire Prevention
  - Fire Protection
  - Fire Protection Administration
- Hospitality Management
- Information/Word Processing
- Interior Merchandising
- Interpreter Training
- Manufacturing Technology
- Marketing and Management
- Medical Records Technology
- Nursing
- Occupational Therapy Assistant
- Paralegal
- Physical Therapy Assistant
- Radiologic Technology
- Recreational Leadership
- Respiratory Therapy
- Secretarial Careers:
  - Administrative Office Management Option
  - Legal Secretary Option
  - Medical Secretary Option
  - Secretarial Science

## ACCOUNTING

Accounting is a crucial part of every business operation. In the 1980s over three million people will be employed in major professional and paraprofessional accounting fields. The job outlook according to the U.S. Bureau of Labor Statistics is better than average in these field-related areas. These are jobs available for two-year graduates, such as bookkeeping/accounting clerks.

The Associate of Applied Science Degree Program is designed for the student with no plans to transfer. This program focuses on practical skills often required for entry-level paraprofessional positions. It features field study courses in which the student gains on-the-job experience working in an approved business. If the student is interested in transferring to a four-year institution, the Accounting Program provides a curriculum that emphasizes courses that will transfer and does not include on-the-job training. Students are asked to contact a counselor prior to the beginning of the Associate of Applied Science Degree Program.

### Associate of Applied Science Degree

		<b>CR</b>
<i>First Semester</i>		
ENGL 121	Composition I .....	3
	Social Science and/or Economics	
	Elective .....	3
ACCT 121	Accounting I .....	3
MATH 120	Business Math .....	3
SEC 101	Keyboarding .....	1
SEC 135	Electronic Calculators .....	1
	Business Electives .....	4
	<b>TOTAL HOURS .....</b>	<b>18</b>

### *Second Semester*

ACCT 122	Accounting II .....	3
BUS 150	Business Communication .....	3
BUS 261	Business Law I .....	3
	Business Electives .....	3
	Humanities and/or Art Elective .....	3
	<b>TOTAL HOURS .....</b>	<b>15</b>

### *Third Semester*

ACCT 231	Intermediate Accounting I .....	3
	OR	
ACCT 222	Managerial Accounting .....	3
DP 124	Business Data Processing .....	3
	OR	
DP 134	Programming Fundamentals .....	4
ACCT 271	Field Study: Human Relations .....	3
	OR	
ACCT 272	Field Study: Human Relations .....	2
CPCA 110	Spreadsheets on Microcomputers I .....	1
	Business Electives .....	5
	<b>TOTAL HOURS .....</b>	<b>14-16</b>



**Fourth Semester**

HPER	Health and/or Physical Education	
	Elective .....	1
ACCT 221	Cost Accounting .....	3
	OR	
ACCT 232	Intermediate Accounting II .....	3
	OR	
ACCT 115	Accounting for Non-Profit Organizations .....	3
ACCT 131	Federal Income Taxes I .....	3
ACCT 274	Field Study Accounting Seminar .....	3
	OR	
ACCT 275	Field Study Accounting Seminar .....	2
CPCA 114	Databases on Microcomputers I .....	1
	Business Electives .....	6
	<b>TOTAL HOURS .....</b>	<b>17</b>
	<b>TOTAL PROGRAM HOURS .....</b>	<b>64</b>

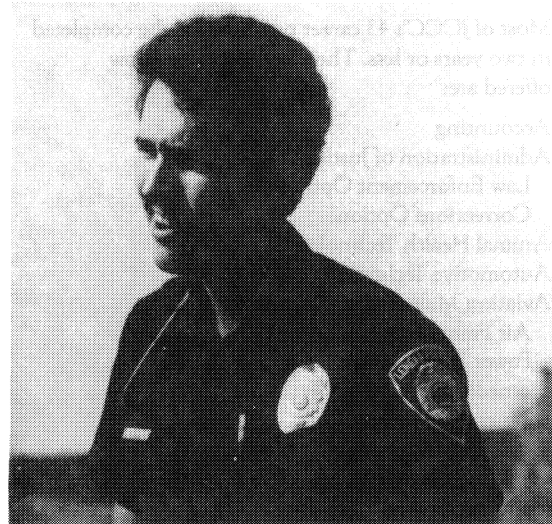
**ADMINISTRATION OF JUSTICE / LAW ENFORCEMENT**

More than one 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 1980s.

JCCC's Administration of Justice / Law Enforcement provides students 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. Students should contact a counselor in developing the program plan.

**Associate of Arts Degree**

<b>First Semester</b>		<b>CR</b>
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
	<b>TOTAL HOURS .....</b>	<b>15</b>
<b>Second Semester</b>		
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
	<b>TOTAL HOURS .....</b>	<b>15</b>



**Third Semester**

ADMJ 154	Fundamentals of Criminal Investigation .....	3
PHIL 143	Ethics .....	3
ADMJ 141	Criminal Law ** .....	3
SPD 120	Interpersonal Communications .....	3
	Science and/or Mathematics Electives .....	6
	<b>TOTAL HOURS .....</b>	<b>18</b>

**Fourth Semester**

	Humanities Course *** .....	3
	Science and/or Mathematics Elective .....	3
HPER	Health and/or Physical Education Elective .....	1
ADMJ	Program Electives .....	9
	<b>TOTAL HOURS .....</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS .....</b>	<b>64</b>

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

- Group 1: American National Government
- State and Local Government: Community Issues and Government
- Group 2: Introduction to Psychology
- Group 3: Social Problems or Sociology

\*\* If you are certified under the Kansas Law Enforcement Training Act, you are eligible to receive Experience-Based Education credit for some or all of these courses.

\*\*\* Cannot be a philosophy course.

**Required Program Electives**

**(9 hours – any 3 courses)**

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

**Correctional Services Option**

**Offered at Longview Community College**

Through a cooperative agreement with Longview Community College, you may take all or some of your 12 program elective credits in Correctional Services.

The following courses are taught at Longview. 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	Study of 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
SEC 110	Beginning Typing *	3
SEC 122	Intermediate Typing	3
SEC 136	Records Management	3
	MATH Elective (MATH 115 or higher)	3

\* If you can demonstrate proficiency of 35 wpm corrected, you may substitute another course.

**AUTOMOTIVE TECHNOLOGY**

The two-year Associate of Applied Science Degree plan concentrates on a theoretical background in diagnosis and tune-up, chassis, electrical and hydraulic systems, automatic transmissions, engines and emissions. Students will work on developing skills needed to advance to a supervisory position, including dealing directly with customers, estimating materials and labor costs and directing the work of others.

The one-year certificate program is specifically designed for those who wish to enter the field as technicians, service writers or in other related positions. In this program, troubleshooting will be emphasized as well as welding, diagnosis and tune-up, chassis, electrical and hydraulic systems, automatic transmissions, engines (including diesels), air conditioning and emission controls. With the completion of one or both of the certificate programs, students will have obtained a well-rounded background in minor repair and/or major repair required for most dealership service personnel.

**Associate of Applied Science Degree**

**First Semester**

**CR**

AUTO 125	Introduction to Auto Shop Practices	3
AUTO 160	Auto Engines I	3
MATH 133	Technical Math I	4
ENGL 121	Composition I	3
BUS 141	Principles of Management	3
HPER	Health and/or Physical Education Elective	1
	<b>TOTAL HOURS</b>	<b>17</b>

**Second Semester**

AUTO 163	Auto Align, Brakes & Drivetrain	3
AUTO 255	Auto Carburetion, Diesel & Fuel Injection	4
MFAB 121	Introduction to Welding	3
ENGL 123	Technical Writing I	3
PHYS 125	Technical Physics I	4
	<b>TOTAL HOURS</b>	<b>17</b>

**Third Semester**

AUTO 150	Auto Transmissions & Transaxles	4
AUTO 222	Auto Starting, Charging & Ignition	3
AUTO 242	Service Management & Techniques I	7
	Social Science and/or Economics Elective	3
	<b>TOTAL HOURS</b>	<b>17</b>

**Fourth Semester**

AUTO 230	Auto A/C, Lighting and Power Accessories	4
AUTO 244	Service Management & Techniques II	7
	Humanities and/or Art Elective	3
	<b>TOTAL HOURS</b>	<b>14</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>65</b>

**Technology Elective:**

AUTO 271	Auto Technology Cooperative Education	2-9
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**Automotive Postsecondary Certificate Programs:**

The Automotive Certificate Programs are constructed to meet the needs of today's beginning and experienced auto mechanics. With the completion of one or both of the certificate programs, the student will have obtained a well-rounded background in minor repair and/or major repair required for dealership service personnel. If the student completes the course(s) with a C or above grade, he/she 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 enabling them to qualify for technical positions in service repair.

<b>Minor Automotive Repair Mechanic</b>		<b>CR</b>
AUTO 125	Introduction to Auto Shop Practices ..	3
AUTO 163	Automotive Alignment, Brakes & Drivetrain .....	3
AUTO 222	Auto Starting, Charging & Ignition ..	3
AUTO 230	Automotive Air Conditioning, Lighting, & Power Accessories .....	4
AUTO 255	Auto Carburetion, Diesel & Fuel Injection .....	4
MFAB 121	Introduction to Welding .....	3
MATH 133	Technical Math I .....	4
PHYS 125	Technical Physics I .....	4
ENGL 121	Composition I .....	3
AUTO 291	Independent Study .....	1
	<b>TOTAL HOURS .....</b>	<b>32</b>

<b>Major Automotive Repair Mechanic</b>		<b>CR</b>
AUTO 125	Introduction to Automotive Shop Practices .....	3
AUTO 150	Automatic Transmissions & Transaxles	4
AUTO 160	Auto Engines I .....	3
AUTO 163	Auto Alignment, Brakes & Drivetrain .	3
AUTO 255	Auto Carburetion, Diesel & Fuel Injection .....	4
MFAB 121	Introduction to Welding .....	3
MATH 133	Technical Math I .....	4
PHYS 125	Technical Physics I .....	4
ENGL 121	Composition I .....	3
AUTO 291	Independent Study .....	1
	<b>TOTAL HOURS .....</b>	<b>32</b>

**AVIATION  
MAINTENANCE  
TECHNOLOGY**

The Aviation Maintenance Technology Program is approved by the Federal Aviation Administration, and prepares the student to sit for the FAA Airframe Mechanic Examination, the FAA Powerplant Mechanic Examination, or both.

The program is not intended to prepare students 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, and students must apply and be accepted into the program by both JCCC and MWCC. There are 1160 clock hours each for the powerplant and airframe sequences if taken separately, and 1920 if both are taken. Completion of either option entitles the student to the Associate of Applied Science Degree and to sit for the appropriate Federal Aviation Administration Examination.

**Associate of Applied Science Degree  
(awarded by Maple Woods Community College)  
Airframe Option**

<b>First Semester</b>		<b>CR</b>
KAV 100	Introduction to Aviation Maintenance I .....	8.5
KAV 111	Introduction to Aviation Maintenance II .....	10.5
ENGL 121	Composition I .....	3
KAV 110	Technical Mathematics I .....	4
	<b>TOTAL HOURS .....</b>	<b>26</b>

<b>Second Semester</b>		
KAV 102	Wood & Fabric .....	3
KAV 104	Assembly & Rigging .....	6
KAV 200	Sheet Metal & Welding .....	6
KAV 204	Aircraft Communication, Navigation & Instrumentation Systems .....	5
	<b>TOTAL HOURS .....</b>	<b>20</b>

<b>Summer</b>		
KAV 106	Hydraulic & Pneumatic Systems .....	7
KAV 202	Aircraft Fuel Systems and Fire Protection Systems .....	2.5
	<b>TOTAL HOURS .....</b>	<b>9.5</b>

<b>Third Semester</b>		
KAV 108	Aircraft Electricity & Related Systems ** .....	5.5
KAV 206	Airframe Theory Survey ** .....	5.5
KAV 210	Seminar in Airframe ** .....	4.5
SPD 120	Interpersonal Communication .....	3
	American Institutions Option * .....	3
	<b>TOTAL HOURS .....</b>	<b>21.5</b>
	<b>TOTAL PROGRAM HOURS .....</b>	<b>77</b>

**Associate of Applied Science Degree  
(awarded by Maple Woods Community College)  
Powerplant Option**

<i>First Semester</i>		<b>CR</b>
KAV 100	Introduction to Aviation Maintenance I .....	8.5
KAV 111	Introduction to Aviation Maintenance II .....	10.5
ENGL 121	Composition I .....	3
KAV 110	Technical Mathematics .....	4
<b>TOTAL HOURS .....</b>		<b>26</b>

<i>Second Semester</i>		
KAV 101	Carburetion & Lubrication .....	7
KAV 103	Aircraft Reciprocating Powerplant ....	6
KAV 109	Aircraft Ignition & Starting Systems ..	4
KAV 107	Jet Propulsion Powerplant .....	5
<b>TOTAL HOURS .....</b>		<b>22</b>

<i>Summer</i>		
KAV 105	Propellers .....	4
KAV 203	Electricity, Generator-Alternator ....	5.5
<b>TOTAL HOURS .....</b>		<b>9.5</b>

<i>Third Semester</i>		
KAV 201	Powerplant Testing ** .....	5
KAV 205	Engine Instruments *** .....	5.5
KAV 209	Seminar in Powerplant *** .....	4.5
SPD 120	Interpersonal Communication .....	3
	American Institutions Option * .....	3
<b>TOTAL HOURS .....</b>		<b>21</b>
<b>TOTAL PROGRAM HOURS ....</b>		<b>78.5</b>

\* All graduates from Maple Woods Community College must meet the Constitution Graduation requirement. See your JCCC counselor about the course.

\*\* KAV 108, 206 and 210 may be taken (on a space available basis) by persons qualified by experience to sit for the FAA Airframe Mechanic Exam. This requires 18 months experience in either Airframe or Powerplant (or 30 months combined) – approval issued by the local FAA office.

\*\*\* KAV 201, 205, and 209 may be taken (on a space available basis) by persons qualified by experience to sit for the FAA Powerplant Mechanic Exam. This requires 18 months experience in either Airframe or Powerplant (or 30 months combined) – approval issued by the local FAA office.

## **BIOMEDICAL EQUIPMENT TECHNOLOGY**

Electrical and electronic equipment are among the hallmarks of our high-technology society. A biomedical equipment technician may work for a hospital, medical equipment manufacturer, medical equipment service firm or as a field technician selling, maintaining and installing specialized electronic systems used in the health field.

The program is devoted to the fundamentals of electronics, natural sciences and related mathematics. Students will participate in an internship program during their last semester of the program in which six hours each week will be spent in an assigned hospital or related area working on equipment found in the field. Successful completion of this two-year program will lead to an Associate of Science Degree.

### **Associate of Science Degree**

<i>First Semester</i>		<b>CR</b>
ELEC 120	Introduction to Electronics .....	3
ELEC 122	Circuit Analysis I .....	3
MATH 133	Technical Math I .....	4
ENGL 121	Composition I .....	3
ELEC 125	Digital Electronics I .....	3
<b>TOTAL HOURS .....</b>		<b>16</b>

<i>Second Semester</i>		
ELEC 225	Digital Electronics II .....	3
ELEC 130	Electronic Devices I .....	3
ELEC 140	Circuit Analysis II .....	3
MATH 134	Technical Math II .....	5
DP 132	BASIC for Engineering Technology ...	3
<b>TOTAL HOURS .....</b>		<b>17</b>

<i>Summer</i>		
BIOL 144	Human Anatomy & Physiology * .....	5

\*Can be taken any semester before third semester.

<i>Third Semester</i>		
ELEC 230	Electronic Devices II .....	3
ELEC 245	Microprocessors .....	3
SPD 120	Interpersonal Communications .....	3
BMT 210	Biomedical Equipment Tech I .....	4
HPER	Health and/or Physical Education Elective .....	1
<b>TOTAL HOURS .....</b>		<b>14</b>

<i>Fourth Semester</i>		
BMT 211	Biomedical Equipment Tech II .....	3
BMT 271	Biomedical Internship .....	3
	Social Science and/or Economics Elective .....	3
	Humanities and/or Art Elective .....	3
<b>TOTAL HOURS .....</b>		<b>12</b>
<b>TOTAL PROGRAM HOURS .....</b>		<b>64</b>

## BUSINESS ADMINISTRATION

In the 1980s over one million people will be employed in the United States as business managers. While these managers are in a wide variety of businesses, the skills required to fill these positions will be basically the same.

JCCC's career program focuses on the development of these skills ... the ability to make decisions; develop a familiarity with functions of management including planning, organizing, directing and controlling; become familiar with the roles of employees and managers. Courses cover business-related topics including data processing, accounting, communications, personnel management, supervision and business law. The program consists of 64 credit hours which will lead to an Associate of Applied Science Degree.

### Associate of Applied Science Degree

#### First Semester

			<b>CR</b>
ENGL	121	Composition I	3
ACCT	121	Accounting I	3
BUS	121	Introduction to Business	3
DP	124	Business Data Processing	3
		Elective	3
HPER		Health and/or Physical Education	
		Elective	1
		<b>TOTAL HOURS</b>	<b>16</b>

#### Second Semester

ACCT	122	Accounting II	3
BUS	141	Principles of Management	3
PSYC	130	Introduction to Psychology	3
ECON	230	Economics I	3
BUS	261	Business Law I	3
MATH	120	Business Math or higher	3
		<b>TOTAL HOURS</b>	<b>18</b>

#### Third Semester

ACCT	222	Managerial Accounting	3
PHIL	143	Ethics	3
ECON	231	Economics II	3
BUS	230	Marketing	3
BUS	125	Savings and Investments	3
		<b>TOTAL HOURS</b>	<b>15</b>

#### Fourth Semester

BUS	271	Management Seminar I	3
BUS	150	Business Communications	3
BUS	263	Business Law II	3
BUS	243	Personnel Management	3
BIOL	130	Environmental Science	3
		<b>TOTAL HOURS</b>	<b>15</b>
		<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

## CHEF APPRENTICESHIP

The Chef Apprenticeship Program at the College is accredited by the American Culinary Federation and the U.S. Department of Labor. The three-year program has special admission requirements. Students must be 18 years old with a high school diploma or the equivalent. Students must successfully complete all entry-level examinations as prescribed by the Apprenticeship Committee of American Culinary Federation Education Institute. Special consideration will be given to anyone who has 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 skills of baking, planning menus, food purchasing, beverage control and preparation of food. After job placement, application may be made to join the American Culinary Federation Educational Institute for registered apprentice membership. Likewise, registration may be made with the Department of Labor and the individual will be officially indentured to supervising chefs and the sponsoring American Culinary Federation affiliate chapter. The program consists of 67-70 credit hours which will lead to an Associate of Applied Science Degree.

### Associate of Applied Science Degree

#### First Semester

			<b>CR</b>
HMGT	121	Hospitality Management	
		Fundamentals	3
HMGT	123	Basic Food Preparation	3
ENGL	121	Composition I	3
HMGT	281	Culinary Practicum I	2
		<b>TOTAL HOURS</b>	<b>11</b>

#### Second Semester

HMGT	273	Seminar: Accounting	3
		OR	
HMGT	274	Seminar: Accounting	2
HMGT	230	Intermediate Food Preparation	3
PSYC	121	Applied Psychology	3
HMGT	282	Culinary Practicum II	2
		<b>TOTAL HOURS</b>	<b>10-11</b>

#### First Summer

HMGT	275	Seminar: Internship	3
		Humanities and/or Art Elective	3
		<b>TOTAL HOURS</b>	<b>6</b>

**Third Semester**

HMGT 277	Seminar: Menu Planning and Sales Promotion .....	3
	OR	
HMGT 278	Seminar: Menu Planning and Sales Promotion .....	2
HMGT 223	Fundamentals of Baking .....	3
MATH 120	Business Math .....	3
HMGT 285	Culinary Practicum III .....	2
	<b>TOTAL HOURS .....</b>	<b>10-11</b>

**Fourth Semester**

HMGT 231	Advanced Food Preparation .....	4
HMGT 279	Beverage Control .....	3
HMEC 151	Nutrition and Meal Planning .....	3
HMGT 286	Culinary Practicum IV .....	2
	<b>TOTAL HOURS .....</b>	<b>12</b>

**Fifth Semester**

HMGT 226	Food Specialties-Garde Manger .....	3
HMGT 271	Seminar: Purchasing .....	3
	OR	
HMGT 272	Seminar: Purchasing .....	2
HMGT 287	Culinary Practicum V .....	2
	<b>TOTAL HOURS .....</b>	<b>7-8</b>

**Sixth Semester**

HMGT 128	Supervisory Management .....	3
HMGT 228	Advanced Hospitality Management .....	3
SPD 120	Interpersonal Communication .....	3
HMGT 288	Culinary Practicum VI .....	2
	<b>TOTAL HOURS .....</b>	<b>11</b>
	<b>TOTAL PROGRAM HOURS ..</b>	<b>67-70</b>



**CIVIL ENGINEERING TECHNOLOGY**

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

JCCC Civil Engineering Technology program offers a broad base of learning experiences in mathematics, physical science, surveying and graphics which will qualify graduates for a variety of entry level positions in the field while at the same time providing preparation toward the individual certification examination of the National Institute for Certification in Engineering Technology (NICET). Successful completion of 64-66 hours from the Civil Engineering curriculum will lead to an Associate of Science Degree.

**Associate of Science Degree**

<b>Prior to Admission</b>	<b>CR</b>
MATH 116 Intermediate Algebra .....	3
OR	
MATH 134 Technical Mathematics II .....	5
OR	
Appropriate Score on Math Assessment Test	

**First Semester**

ENGR 131	Engineering Graphics I .....	3
MATH 171	College Algebra .....	3
PHYS 125	Technical Physics I .....	4
ENGL 121	Composition I .....	3
HPER	Health and/or Physical Education Elective .....	1
	Programming Elective from approved list* .....	3
	<b>TOTAL HOURS .....</b>	<b>17</b>

**Second Semester**

DRAF 180	Architectural/Structural Drafting .....	4
DRAF 230	Computer-Aided Drafting 2-D .....	3
MATH 172	Trigonometry .....	3
PHYS 126	Technical Physics II .....	3
	Technical Elective from approved list *** .....	3
	<b>TOTAL HOURS .....</b>	<b>16</b>



**Third Semester**

DRAF 225	Cartography and Land Surveying . . . . .	3
ENGR 211	Technical Statics and Mechanics . . . . .	3
	Humanities and/or Art Elective . . . . .	3
	Communication Elective from approved list ** . . . . .	3
	Technical Elective from approved list*** . . . . .	4-5
	<b>TOTAL HOURS . . . . .</b>	<b>16-17</b>

**Fourth Semester**

DRAF 127	Building Construction Estimating I . . . . .	3
ENGR 258	Structural Analysis and Design . . . . .	5
	Social Science/Economics Elective . . . . .	3
	Technical Electives from approved list *** . . . . .	5-6
	<b>TOTAL HOURS . . . . .</b>	<b>16-17</b>
	<b>TOTAL PROGRAM HOURS ..</b>	<b>64-66</b>

\* Recommended Programming Elective

DP 132	BASIC for Engineering Technology . . . . .	3
ENGR 171	Programming for Engineering & Science . . . . .	3

\*\* Recommended Communication Elective

ENGL 122	Composition II . . . . .	3
ENGL 123	Technical Writing . . . . .	3
SPD 120	Interpersonal Communication . . . . .	3

\*\*\* Recommended Technical Electives

ENGR 180	Engineering Land Surveying . . . . .	3
DRAF 160	Process Piping . . . . .	3
ENGR 254	Dynamics . . . . .	3
ENGR 252	Mechanics of Materials Cooperative Education . . . . .	2-9
DRAF 231	Computer-Aided Drafting 3-D . . . . .	3
DRAF 232	Computer-Aided Drafting Applications . . . . .	3
DRAF 128	Building Construction Estimating II . . . . .	3
PSCI 130	General Geology . . . . .	3
MATH 241	Analytic Geometry Calculus I . . . . .	5
BIOL 130	Environmental Science . . . . .	3
BIOL 131	Environmental Science Lab . . . . .	1

**COMMERCIAL ART**

The commercial art field is highly competitive for both salaried and free lance positions. There is always a demand for artists with above-average talents and solid graphic art skills. Opportunities in the field range from entry-level paste-up and layout positions 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 the student develop a

comprehensive portfolio. Work will be critiqued by a team of professionals. These professionals working in the field, along with full-time faculty, will help in developing the student's skills in creative problem-solving, the use of processes, materials, tools and equipment. Outstanding studio facilities are available for working on class projects. The two-year curriculum consisting of 66 credit hours will lead to an Associate of Applied Science Degree.

**Associate of Applied Science Degree**

<b>First Semester</b>		<b>CR</b>
ART 124	Design 2D . . . . .	3
ART 129	Design Color . . . . .	3
CA 130	Rep. Drawing I . . . . .	3
PHOT 121	Photography I . . . . .	3
CA 132	Typography . . . . .	3
ENGL 121	Composition I . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>18</b>

**Second Semester**

CA 131	Rep. Drawing II . . . . .	3
ART 127	Design 3D . . . . .	3
CA 134	Layout I . . . . .	3
CA 141	Graphic Art Process I . . . . .	1
CA 142	Graphic Art Process II . . . . .	1
CA 143	Graphic Art Process III . . . . .	1
	Humanities and/or Art Elective . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>15</b>

**Third Semester**

PHOT 123	Photography III . . . . .	3
CA 144	Graphic Art Process IV . . . . .	1
CA 145	Graphic Art Process V . . . . .	1
CA 230	Illustration Techniques . . . . .	3
CA 231	Layout II . . . . .	3
CA 235	Production Art I . . . . .	3
	Social Science and/or Economics Elective . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>17</b>

**Fourth Semester**

CA 244	Visual Communications . . . . .	3
CA 236	Production Art II . . . . .	3
HPER	Health and/or Physical Education Elective . . . . .	1
	Science and/or Math Elective . . . . .	3
CA 245	Graphic Design . . . . .	3
CA 272	Professional Preparation ** or Studio Elective . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS . . . . .</b>	<b>66</b>

**Part-Time Students:**

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

ENGL	121	Composition I	3
ART	124	Design 2D	3
ART	129	Design Color	3
CA	130	Rep. Drawing I	3
PHOT	121	Photography I	3
CA	132	Typography	3
		Humanities and/or Art Elective	3
ART	127	Design 3D	3
CA	131	Rep. Drawing II	3
CA	134	Layout I	3
CA	141	Graphic Arts Process I	1
CA	142	Graphic Arts Process II	1
CA	143	Graphic Arts Process III	1
		Economics or Social Science Elective	3
PHOT	123	Photography III	3
CA	144	Graphic Arts Process IV	1
CA	145	Graphic Arts Process V	1
CA	230	Illustration Techniques	3
CA	231	Layout II	3
CA	235	Production Art I	3
		Science or Math Elective	3
CA	236	Production Art II	3
CA	244	Visual Communications	3
CA	245	Graphic Design	3
HPER		Health and/or Physical Education Elective	1
		Studio Elective	
		OR	
CA	272	Professional Preparation **	3
		<b>TOTAL CREDITS</b>	<b>66</b>

\*\* Application to Faculty Review Committee necessary for acceptance into course.

**COMPUTER SYSTEMS TECHNOLOGY**

Now that microprocessors have become a crucial part of almost every business operation, the need for technicians to repair and maintain equipment has grown. Job opportunities in the Kansas City area for entry level through supervisory positions are in a growth period throughout the 1980s.

Currently JCCC's program is the only one of its kind in the area. The two-year program concentrates on the skills and theoretical knowledge required to fill these entry level positions. First year courses are compatible with those required in JCCC's Electronics Engineering Program. This provides an option of starting the Electronics Engineering Program and transferring to JCCC's Computer Systems Technology Program. The "open lab" concept allows access to the electronics lab and the instruments necessary to complete lab assignments. The lab is equipped with the type of equipment currently being used in the industry. A minimum of 64 credit hours is required for an Associate of Science Degree.

**Associate of Science Degree**

<i>First Semester</i>			<b>CR</b>
ENGL	121	Composition I	3
ELEC	120	Introduction to Electronics	3
ELEC	122	Circuit Analysis I	3
ELEC	125	Digital Electronics I	3
MATH	133	Technical Math I	4
		<b>TOTAL HOURS</b>	<b>16</b>

<i>Second Semester</i>			
ELEC	140	Circuit Analysis II	3
ELEC	225	Digital Electronics II	3
ELEC	130	Electronic Devices I	3
DP	132	BASIC for Engineering Technology	3
MATH	134	Technical Math II	5
		<b>TOTAL HOURS</b>	<b>17</b>

<i>Third Semester</i>			
ELEC	230	Electronic Devices II	3
ELEC	245	Microprocessors	3
		Social Science or Economics Elective	3
PHYS	125	Technical Physics I	4
SPD	120	Interpersonal Communications	3
		<b>TOTAL HOURS</b>	<b>16</b>

<i>Fourth Semester</i>			
CST	260	Computer Systems	5
DP	245	Operating Systems	
		for Microcomputers	3
DP	230	Data Communications	
		for Microcomputers *	3
		Humanities and/or Art Elective	3
HPER		Health and/or Physical Education Elective	1
		<b>TOTAL HOURS</b>	<b>15</b>
		<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

\* Students may substitute approved Co-op placement course.

## DATA PROCESSING

Industry is expected to have a favorable impact on employment opportunities for programmers because of the decrease in size and cost of computers. Demand will focus in the area of systems programming where specialists will be needed to develop and maintain programs for entire computer systems. The need for applications programmers, those who write programs for specific purposes, will increase.

JCCC's Data Processing Program focuses on the skills needed for entry level programming and related positions. Students will learn to code COBOL programs and other languages using an on-line editor. The emphasis on practical experience and the specific courses will upgrade and broaden students' knowledge even if already working in the data processing field. An Associate of Applied Science Degree is awarded for successful completion of the 64 credit hour program.

### Associate of Applied Science Degree

#### First Semester

	CR
DP 134 Programming Fundamentals	4
ACCT 121 Accounting I	3
ENGL 121 Composition I	3
MATH 116 Intermediate Algebra or higher	3
Elective	3
<b>TOTAL HOURS</b>	<b>16</b>

#### Second Semester

DP 148 COBOL I	4
DP 140 Editor	1
Data Processing Elective	3-4
PHIL 132 Logic	3
ECON 230 Economics I	3
HPER Health and/or Physical Education	
Elective	1
<b>TOTAL HOURS</b>	<b>15-16</b>

#### Third Semester

DP 248 COBOL II	4
DP 150 Assembler Language I	4
DP 263 Application Programming/ Applications	3
Data Processing Elective	3-4
Elective	3
<b>TOTAL HOURS</b>	<b>17-18</b>

#### Fourth Semester

DP 258 Operating Systems	3
DP 264 Application Programming/ Data Processing	3
DP 242 Introduction to System Design and Analysis	3
Data Processing Elective	3-4
Elective	3-6
<b>TOTAL HOURS</b>	<b>15-19</b>
<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

The three Data Processing Elective courses are to be selected from the following with one elective being a language course:

DP 137 Advanced BASIC	4
DP 145 Assembler Language for Microcomputers	4
DP 156 RPG II Beginning	4
DP 158 FORTRAN	4
DP 162 dBase III Programming	4
DP 174 Teleprocessing	3
DP 215 OS/VS Job Control Language	3
DP 230 Data Communications/Micro	3
DP 235 Programming in C	4
DP 245 Microcomputer Operating Systems	3
DP 250 Assembler Language II	4
DP 253 CICS Command Level COBOL	4
DP 256 RPG II Advanced	4
DP 260 Data Base Management	4
CS 200 PASCAL	4
CS 210 Discrete Structures I	3
CS 211 Discrete Structures II	3
CS 250 Basic Programming Structures	4

## 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. As a dental hygienist you will earn a competitive salary and enjoy flexibility of work hours. A preventive professional may function in many roles. Some of these might be to work in a school system and serve as a preventive educator, conduct oral screening in nursing homes, write textbooks, serve as a

salesperson for dental suppliers or provide preventive services in a private dental office.

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, JCCC's dental hygiene program comprises five semesters and a summer session, totaling 80 credit hours, and leads to an Associate of Science Degree. JCCC dental hygiene students gain valuable practical experience in the College's dental hygiene clinic located on campus. Working under the supervision of a licensed dentist and registered dental hygienists the student can develop efficiency in preventive dental techniques. This challenging program is demanding and rewarding, and requires full-time involvement. Enrollment in this program is limited, and the deadline for fall semester applications is February 1. Contact the Admissions Office for an application packet, which includes deadlines, admission requirements and options for meeting academic criteria.

**Associate of Science Degree  
(Prior to Beginning Clinical Courses)**

<i>Summer</i>		<b>CR</b>
CHEM 122	Principles of Chemistry .....	5
ENGL 121	Composition I .....	3
SOC 122	Sociology .....	3
TOTAL HOURS .....		<b>11</b>

*First Semester*

DHYG 121	Clinical Dental Hygiene I .....	6
BIOL 146	General Head and Neck Anatomy ....	4
DHYG 125	Developmental Dentistry .....	3
PSYC 130	Introduction to Psychology .....	3
TOTAL HOURS .....		<b>16</b>

*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 .....	1
DHYG 148	Dental Health Education .....	1
HPER	Health and/or Physical Education Elective .....	1
TOTAL HOURS .....		<b>17</b>

*Third Semester*

BIOL 235	General Nutrition .....	3
	Humanities and/or Art Elective .....	3
	Mathematics Elective .....	3
TOTAL HOURS .....		<b>9</b>

*Fourth 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 HOURS .....		<b>17</b>

*Fifth Semester*

DHYG 250	Clinical Dental Hygiene IV .....	7
SPD 120	Interpersonal Communication .....	3
TOTAL HOURS .....		<b>10</b>
<b>TOTAL PROGRAM HOURS .....</b>		<b>80</b>

**DRAFTING TECHNOLOGY**

Drafters are specialists who draw plans for buildings and machinery. A drafting technician may be involved in detailing production drawings and designs that are used in work with computers, photodrafting and quality control. Often drafting technicians hold positions in architectural and engineering firms.

JCCC's Drafting Technology Program provides two options for interested students: the civil option and the machine option. The two-year curriculum enables the student to use the latest surveying, computer-aided design manufacturing (CAD-CAM), equipment. The course projects and the laboratory procedures used will be similar to those used in the industry. Upon successfully completing the 64 hours of credit an Associate of Science Degree will be awarded.

**Associate of Science Degree**

**Civil Option**

<i>First Semester</i>		<b>CR</b>
ENGR 131	Engineering Graphics I .....	3
MATH 133	Technical Math I .....	4
ENGL 121	Composition I .....	3
	Humanities and/or Art Elective .....	3
	Social Science and/or Economics Elective .....	3
TOTAL HOURS .....		<b>16</b>

*Second Semester*

DRAF 122	Industrial Drafting .....	3
DRAF 230	Introduction to CAD 2-D .....	3
DRAF 180	Architectural/Structural Drafting ....	4
MATH 134	Technical Math II .....	5
ENGL 123	Technical Writing I .....	3
	OR	
SPD 120	Interpersonal Communication .....	3
	OR	
ENGL 122	Composition II .....	3
TOTAL HOURS .....		<b>18</b>

**Third Semester**

DRAF 225	Cartography / Land Surveying	3
DRAF 121	Technical Illustration	3
PHYS 125	Technical Physics I	4
DP 132	BASIC for Engineering Technology	3
	Drafting Elective	3
	<b>TOTAL HOURS</b>	<b>16</b>

**Fourth Semester**

DRAF 150	Electrical Drafting	3
DRAF 127	Building Construction Estimating I	3
	OR	
DRAF 160	Process Piping	3
PHYS 126	Technical Physics II	3
HPER	Health and/or Physical Education	
	Elective	1
	Drafting Electives *	4
	<b>TOTAL HOURS</b>	<b>14</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

\* 3 Hr. Technical Elective can apply

**Drafting Electives**

DRAF 231	Computer Aided Drafting 3-D	3
DRAF 232	CAD Applications	3
DRAF 222	Machine Drafting	4
DRAF 175	Electronics Drafting	3
DRAF 271	Drafting Cooperative Education	1-7
DRAF 129	Interpreting Architectural Drawing	2

**Technical Elective**

ENER 125	Energy Alternatives	3
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**Associate of Science Degree**

**Machine Option**

**First Semester**

**CR**

ENGR 131	Engineering Graphics I	3
MATH 133	Technical Math I	4
ENGL 121	Composition I	3
MFTG 121	Manufacturing Processes and Testing	3
	Humanities and/or Art Elective	3
	<b>TOTAL HOURS</b>	<b>16</b>

**Second Semester**

DRAF 122	Industrial Drafting	3
DRAF 230	Introduction to CAD 2-D	3
MATH 134	Technical Math II	5
ENGL 123	Technical Writing I	3
	OR	
SPD 120	Interpersonal Communication	3
	OR	
ENGL 132	Composition II	3
ENGR 132	Engineering Graphics II	3
	OR	
	Technical Elective	3
	<b>TOTAL HOURS</b>	<b>17</b>

**Third Semester**

DRAF 222	Machine Drafting	4
DRAF 121	Technical Illustration	3
PHYS 125	Technical Physics I	4
DP 132	BASIC for Engineering Technology	3
	Drafting Elective	3
	OR	
	Technical Elective	3
	<b>TOTAL HOURS</b>	<b>17</b>

**Fourth Semester**

PHYS 126	Technical Physics II	3
	Social Science and/or Economics	
	Elective	3
HPER	Health and/or Physical Education	
	Elective	1
	Drafting Elective *	7
	<b>TOTAL HOURS</b>	<b>14</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

\* 3 Hr. Technical Elective can apply

**Drafting Electives**

DRAF 231	Computer Aided Drafting 3-D	3
DRAF 232	CAD Applications	3
DRAF 150	Electrical Drafting	3
DRAF 175	Electronics Drafting	3
DRAF 180	Architectural/Structural Drafting	4
DRAF 225	Cartography & Land Surveying	3
DRAF 271	Drafting Cooperative Education I	2-9

**Technical Electives**

ELEC 120	Introduction to Electronics	3
MFTG 126	Machine Tool Processes I	3
MFTG 135	Testing and Inspection	3
MFTG 140	Introduction to Metal Fabrication	3
MFTG 122	Robotics	2

**ELECTRONICS  
ENGINEERING  
TECHNOLOGY**

Industry's demand for high-tech communications equipment, and consumers' demand for electronic products will provide increased job opportunities for electronic engineering technicians over the next few years. Graduates of specialty training programs, particularly those including practical work experience, will have better opportunities for job placement according to government research.

Focusing on the fundamentals of electronics and related mathematics, the Electronics Engineering Technology Program offers comprehensive, theoretical and practical knowledge of electronics technology.

Laboratory facilities give the opportunity to diagnose circuits with equipment comparable to that used in the industry. The program consists of 64 credit hours which will lead to an Associate of Science Degree.

**Associate of Science Degree**

<i>First Semester</i>		<b>CR</b>
ELEC 120	Introduction to Electronics .....	3
ELEC 122	Circuit Analysis I .....	3
ELEC 125	Digital Electronics I .....	3
MATH 133	Technical Mathematics I .....	4
ENGL 121	Composition I .....	3
<b>TOTAL HOURS .....</b>		<b>16</b>

<i>Second Semester</i>		
ELEC 225	Digital Electronics II .....	3
ELEC 130	Electronic Devices I .....	3
ELEC 140	Circuit Analysis II .....	3
MATH 134	Technical Mathematics II .....	5
DP 132	BASIC for Engineering Technology ...	3
<b>TOTAL HOURS .....</b>		<b>17</b>

<i>Third Semester</i>		
ELEC 230	Electronics Devices II .....	3
ELEC 245	Microprocessors .....	3
PHYS 125	Technical Physics I .....	4
SPD 120	Interpersonal Communications .....	3
	Humanities and/or Art Elective .....	3
<b>TOTAL HOURS .....</b>		<b>16</b>

<i>Fourth Semester</i>		
ELEC 240	Electronic Communication Systems ...	4
ENGL 123	Technical Writing I .....	3
	Electronics Technical Elective .....	4
	Social Science and/or Economics Elective .....	3
HPER	Health and/or Physical Education Elective .....	1
<b>TOTAL HOURS .....</b>		<b>15</b>
<b>TOTAL PROGRAM HOURS .....</b>		<b>64</b>

**Approved Electronics Electives**

ELEC 271	Electronics Cooperative Education I .	2-9
DP 174	Teleprocessing .....	3
MFTG 122	Robotics .....	2
PHYS 126	Technical Physics II .....	3

**EMERGENCY MEDICAL SCIENCE**

In Emergency Medical Science, students can opt for one of two tracks. The EMT Course (Emergency Medical Technician) and MICT Program (Paramedic) afford graduates job opportunities in the dynamic field of emergency medical care. Both courses of study offer

certificates upon successful completion. Furthermore, the MICT Program offers students the opportunity to finish either an Associate of Science or Associate of Applied Science degree. Qualifications for choosing these career fields include compassion for helping victims in medical crises, acting calmly and systematically in high stress environments, and possessing a fair amount of physical stamina and dexterity.

EMT: The six credit hour Emergency Medical Technician Course, which is offered every semester, is by open enrollment. This class meets twice a week in the evenings and includes six Saturday sessions. In this course, basic skills taught include CPR, bandaging, splinting, child-birth assistance, extrication from autos, and recognition and pre-hospital treatment for medical emergencies, such as heart attacks, strokes and diabetes. Upon instructor recommendations, students will participate in clinical observation in a hospital setting. Successful completion of this course will enable students to take the State Certification Examinations for Emergency Medical Technicians.

MICT: Fully accredited by the American Medical Association's Committee on Allied Health Education and Accreditation, the year-long, 47 credit hour Mobile Intensive Care Technician Program (MICT-Paramedic) offers graduates of the EMS course further training in advanced emergency medical care. The long hours required for this accelerated program generally preclude students from holding full-time employment or taking other classes. This program consists of four courses which include clinical rotation in a hospital setting and field internship with an ambulance service. Skills taught include the administration of medications, IV fluids and defibrillation. Upon completion of this training, students will be eligible to take the State Certification Examinations for Mobile Intensive Care Technicians. Enrollment in this program is limited and the deadline for applications is October 15. Contact the Admissions Office for an application packet. Accepted students enter the program beginning with the spring semester, attending summer classes and concluding in December.

**Associate of Science Degree (Prior to Beginning Professional Courses)**

*Certified as Emergency Medical Technician (EMS 130)*

OR

*Approval of Division Director*

BIOL 140	Human Anatomy .....	4
BIOL 225	Human Physiology .....	4
CHEM 122	Principles of Chemistry .....	5
<b>TOTAL HOURS .....</b>		<b>13</b>



<b>First Semester (Spring)</b>		<b>CR</b>
EMS 220	MICT I	10
EMS 225	MICT II	10
TOTAL HOURS		<b>20</b>

<b>Second Semester (Summer)</b>		
EMS 230	MICT III (Clinicals)	12

<b>Third Semester (Fall)</b>		
EMS 271	MICT IV (Field Internship)	15

<b>Fourth Semester</b>		
ENGL 121	Composition I	3
SPD 121	Public Speaking	3
SOC 125	Social Problems	3
PHIL 143	Ethics	3
TOTAL HOURS		<b>12</b>

<b>Fifth Semester</b>		
MATH	Mathematics Elective	3
HPER 134	Weight Training & Physical Fitness	1
	OR	
HPER	Health and/or Physical Education	
	Elective	1
TOTAL HOURS		<b>4</b>
<b>TOTAL PROGRAM HOURS</b>		<b>76</b>

**Associate of Applied Science Degree  
(Prior to Beginning Professional Courses)**

**Certified as Emergency Medical Technician (EMS 130)**

OR

**Approval of Division Director**

BIOL 144	Human Anatomy and Physiology	5
	OR	
BIOL 140	Human Anatomy	4
	OR	
BIOL 225	Human Physiology	4

<b>First Semester (Spring)</b>		<b>CR</b>
EMS 220	MICT I	10
EMS 225	MICT II	10
TOTAL HOURS		<b>20</b>

<b>Second Semester (Summer)</b>		
EMS 230	MICT III (Clinicals)	12

<b>Third Semester (Fall)</b>		
EMS 271	MICT IV (Field Internship)	15

<b>Fourth Semester</b>		
ENGL 121	Composition I	3
SOC 125	Social Problems	3
	OR	
	Social Science or Economics Elective	3
PHIL 143	Ethics	3
	OR	
	Humanities or Art Elective	3
HPER 134	Weight Training & Physical Fitness	1
	OR	

HPER	Health and/or Physical Education	
	Elective	1
	Elective	2
TOTAL HOURS		<b>12</b>
<b>TOTAL PROGRAM HOURS</b>		<b>64</b>

**ENERGY TECHNOLOGY**

Government researchers say graduates of training programs that emphasize hands-on experience will have a definite advantage when seeking employment in energy technology. JCCC offers the opportunity to work on actual equipment while pursuing a degree or certificate program.

The 64 credit hour Associate of Applied Science Degree Program focuses on developing an awareness of basic mathematical and scientific principles. The curriculum is concerned with how 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. Alternate sources of energy will be explored, such as wind, photovoltaic and solar. The theory of operation as well as installation, servicing and repairing of gas furnaces, electric furnaces, heat pumps, rooftop air conditioners, and steam boilers is part of the curriculum.

**Associate of Applied Science Degree**

<b>First Semester</b>		<b>CR</b>
ENER 121	Basic Principles of HVAC	4
ENER 123	Electromechanical Systems	3
ENER 125	Energy Alternatives	3
MATH 133	Technical Math I	4
ENGL 121	Composition I	3
TOTAL HOURS		<b>17</b>

<b>Second Semester</b>		
ENER 124	Residential HVAC Estimating	2
ENER 126	Residential HVAC Systems	3
ENER 128	Instrumentation & Control Devices	3
PHYS 125	Technical Physics I	4
DRAF 120	Basic Drafting	2
HPER	Health and/or Physical Education	
	Elective	1
TOTAL HOURS		<b>15</b>

<b>Third Semester</b>		
ENER 221	Commercial Systems/ Air Conditioning	4
ENER 222	Advanced Control Systems	3
MFAB 232	Sheet Metal Pattern & Development	3
	Social Science and/or Economics	
	Elective	3
	Technical Elective	3
TOTAL HOURS		<b>16</b>

**Fourth Semester**

ENER 223	Commercial Systems/Heating	4
ENER 224	Diagnosis and Service Procedures	3
ENER 226	Energy Management	3
MFAB 121	Introduction to Welding	3
	Humanities and/or Art Elective	3
	<b>TOTAL HOURS</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

**Technical Electives**

ENER 129	Domestic Solar Systems	3
ENER 130	Passive Solar Fundamentals	3
ENER 271	HVAC Cooperative Education I	2-9
MFAB 140	Introduction to Metal Fabrication	3
ELEC 120	Introduction to Electronics	3
DP 132	BASIC for Engineering Technology	3

**Energy Technology**

**Postsecondary Certificate Program**

The certificate program is designed to prepare graduates for the basic job skills needed to service residential and domestic heating and air conditioning equipment. If you elect the certificate option you will learn the theory of operation as well as installation, servicing and repairing of gas furnaces, electric furnaces, heat pumps, rooftop air conditioners 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.

**First Semester**

**CR**

ENER 121	Basic Principles of HVAC	4
ENER 123	Electromechanical Systems	3
MATH 133	Technical Math I	4
	<b>TOTAL HOURS</b>	<b>11</b>

**Second Semester**

ENER 126	Residential HVAC Systems	3
ENER 124	Residential HVAC Estimating	3
ENGL 121	Composition I	3
	Technical Elective	3
	<b>TOTAL HOURS</b>	<b>12</b>

The following 12 credit hours must be completed in addition to the above courses:

ENER 221	Commercial Systems/ Air Conditioning	4
ENER 223	Commercial Systems/Heating	4
PHYS 125	Technical Physics I	4
	<b>TOTAL HOURS</b>	<b>12</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>35</b>

**EQUINE STUDIES**

The 8.5 million horses in the United States will create a number of job opportunities for riding instructors, trainers, breeders, stable managers, show judges and ferrriers. JCCC's Equine Studies Program helps students develop the skills needed for a career as a stable owner or manager, breeder, trainer or manager of programs and facilities in the horse industry.

The Associate of Applied Science Degree curriculum, which includes 65 credit hours, will improve skills in riding, training, judging and caring for horses.

**Associate of Applied Science Degree**

**First Semester**

**CR**

ENGL 121	Composition I	3
EQUUS 120	Stable Management I	4
EQUUS 124	Equine Anatomy and Physiology	4
EQUUS 128	Equitation I	4
	<b>TOTAL HOURS</b>	<b>15</b>

**Second Semester**

MATH 120	Business Math	3
PSYC 130	Introduction to Psychology	3
EQUUS 140	Stable Management II	4
EQUUS 132	Equine Health, Nutrition, Disease and Disorders	4
EQUUS 154	Equitation II	4
	<b>TOTAL HOURS</b>	<b>18</b>

**Third Semester**

ENGL 122	Composition II	3
	Humanities and/or Art Elective	3
EQUUS 220	Stable Management III	4
EQUUS	Equine Electives	4
HPER	Health and/or Physical Education Elective	1
	<b>TOTAL HOURS</b>	<b>15</b>

**Fourth Semester**

BUS 140	Principles of Supervision	3
EQUUS 240	Stable Management IV	4
EQUUS	Equine Electives	7
EQUUS 281	Advanced Equitation Project	2
	<b>TOTAL HOURS</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

**Equine Electives**

EQUUS 142	Techniques of Training & Conditioning	4
EQUUS 134	Techniques of Riding Instruction I	3
EQUUS 135	Techniques of Riding Instruction II	3
EQUUS 222	Equine Breeding and Management	4
EQUUS 260	Advanced Equitation	4

## FASHION MERCHANDISING

While New York, Paris and Rome are considered the fashion centers of the world, there are many career opportunities locally for fashion merchandising graduates.

JCCC offers an Associate of Applied Science Degree requiring a minimum of 64 credit hours. The program focuses on merchandising, marketing and management in five areas of operation: textile, apparel design, manufacturing, media and promotion, and retailing. Field experience is an essential part of the program. Students will be guided through behind-the-scenes operations in Kansas City stores to observe the network of sales-supporting activities as well as manufacturing operations. There are opportunities to participate in field experiences in Dallas, New York or Europe.

### Associate of Applied Science Degree

<i>First Semester</i>		<b>CR</b>
FASH	Seminar *	3
FASH 121	Fashion Fundamentals I	3
FASH 125	Fashion Display	3
ENGL 121	Composition I	3
HPER	Health and/or Physical Education	
	Elective	1
	Elective	3
	<b>TOTAL HOURS</b>	<b>16</b>

<i>Second Semester</i>		
FASH	Seminar *	3
FASH 132	Fashion Promotion	3
MKT 134	Creative Retail Selling	3
MATH 120	Business Math or higher	3
FASH 150	Textiles	3
FASH 135	Career Wardrobe Planning	1
	<b>TOTAL HOURS</b>	<b>16</b>

<i>Third Semester</i>		
FASH	Seminar *	3
FASH 231	Fashion Fundamentals II	3
MKT 121	Retailing	3
FASH 220	Fashion in Society	3
ECON 130	Basic Economics	3
	OR	
ECON 230	Economics I	3
LC 150	Job Search Skills	1
	<b>TOTAL HOURS</b>	<b>16</b>

<i>Fourth Semester</i>		
FASH	Seminar *	3
FASH 242	Merchandise Evaluation	3
BUS 230	Marketing	3
	Humanities and/or Art Elective	3
	Electives	4
	<b>TOTAL HOURS</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

### Suggested Electives

FASH 224	History of Dress	3
FASH 130	Fashion Illustration I	3
FASH 230	Fashion Illustration II	3
ITMD 121	Interior Design I	3
BUS 123	Personal Finance	3
ACCT 121	Accounting I	3
ART 151	Weaving I	3
BUS 243	Personnel Management	3
BUS 122	Principles of Management	3
SOC 128	Sociology	3
PSYC 130	Introduction to Psychology	3
DP 134	Programming Fundamentals	4
JOUR 125	Fundamentals of Advertising	3

\* SEMINARS: Take the Fashion Seminar offered each semester — no required order.

FASH 271	Fashion Seminar: Human Relations	3
	OR	
FASH 272	Fashion Seminar: Human Relations	2
FASH 274	Fashion Seminar: Supervisory Development	3
	OR	
FASH 275	Fashion Seminar: Supervisory Development	2
FASH 276	Fashion Seminar: Career Options	3
	OR	
FASH 277	Fashion Seminar: Career Options	2
FASH 279	Fashion Seminar: Market Research	3
	OR	
FASH 280	Fashion Seminar: Market Research	2

## FIRE PREVENTION

JCCC offers a program for those interested in fire investigation, fire safety, education and fire codes. The Fire Prevention Program requires four semesters and a minimum of 64 credit hours to earn an Associate of Science Degree. A student may also earn a certificate with successful completion of 30 credit hours and be ready to enter the job market.

A student will be presumed to be in his first semester at the point where he enters the curriculum. Example, if someone starts in Semester two, he will follow the scheduled courses through semesters three, four and one.

**Associate of Science Degree**

**First Semester** **CR**

FIRE 121	Fundamentals of Fire Prevention	3
FIRE 130	Fire Investigation	3
ENGL 121	Composition I	3
	Social Science and/or Economics Elective	3
	Mathematics Elective	3
	<b>TOTAL HOURS</b>	<b>15</b>

**Second Semester**

FIRE 132	Arson Investigation	3
	Science Elective	5
HPER	Health and/or Physical Education Elective	1
	Technical Electives	6
	<b>TOTAL HOURS</b>	<b>15</b>

**Third Semester**

FIRE 135	Life Safety Codes	3
	Mathematics and/or Science Elective	5
	Communications Elective	3
	Technical Electives	6
	<b>TOTAL HOURS</b>	<b>17</b>

**Fourth Semester**

FIRE 125	Building Construction for Fire Protection	3
FIRE 137	Extinguishing, Detection and Alarm Systems	3
	Technical Electives	8
	Humanities and/or Art Elective	3
	<b>TOTAL HOURS</b>	<b>17</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

**Technical Electives**

FIRE 175	Essentials of Fire Fighting	4
EMS 130	Emergency Medical Technician	6
CHEM 122	Principles of Chemistry	5
MATH 133	Technical Math I	4
ADMJ 124	Criminal Justice System	3
FIRE 291	Independent Study: Fire Science	1-3

Any course in this section not required in program.

**Postsecondary Certificate Program**

**First Semester** **CR**

FIRE 125	Building Construction for Fire Protection	3
ENGL 121	Composition I	3
	<b>TOTAL HOURS</b>	<b>6</b>

**Second Semester**

FIRE 121	Fundamentals of Fire Protection	3
FIRE 132	Arson Investigation	3
	<b>TOTAL HOURS</b>	<b>6</b>

**Third Semester**

FIRE 137	Extinguishing, Detection and Alarm Systems	3
PHOT 121	Photography I	3
MATH 115	Introduction to Algebra	3
	<b>TOTAL HOURS</b>	<b>9</b>

**Fourth Semester**

FIRE 130	Fire Investigation	3
FIRE 135	Life Safety Code	3
	Communication Elective	3
	<b>TOTAL HOURS</b>	<b>9</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>30</b>

**FIRE PROTECTION**

JCCC offers the Fire Protection Program for students interested in the various aspects of fire suppression. The program requires six semesters with a minimum of 64 credit hours to earn an Associate of Science Degree. A student may earn a certificate with 30 hours of credit, and may then enter the job market.

A student will be presumed to be in his first semester at the point where he enters the curriculum. Example, if someone starts in Semester two, he will follow the scheduled courses through semesters three, four and one.

**Associate of Science Degree**

**First Semester** **CR**

FIRE 140	Hazardous Materials Recognition and Identification	1
FIRE 143	Hazardous Materials Properties and Characteristics	1
FIRE 145	Hazardous Materials Initial Response	1
FIRE 150	Introduction to Fire Science	3
FIRE 162	Fire Tactics and Strategy	3
ENGL 121	Composition I	3
	Mathematics Elective	3
	<b>TOTAL HOURS</b>	<b>15</b>

**Second Semester**

FIRE 159	Fire Hydraulics	4
FIRE 170	Sprinkler and Standpipe Systems	3
	Social Science and/or Economics Elective	3
HPER	Health and/or Physical Education Elective	1
	Technical Elective	6
	<b>TOTAL HOURS</b>	<b>17</b>

**Third Semester**

FIRE 169	Rescue Techniques	4
	Humanities and/or Art Elective	3
	Communication Elective	3
	Science Elective	5
	<b>TOTAL HOURS</b>	<b>15</b>

**Fourth Semester**

FIRE 160	Fire Apparatus and Equipment	3
	Mathematics or Science Elective	5
	Technical Electives	8
	<b>TOTAL HOURS</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

**Technical Electives**

FIRE 175	Essentials of Fire Fighting	4
EMS 130	Emergency Medical Technician	6
CHEM 122	Principles of Chemistry	5
MATH 133	Technical Math I	4
ADMJ 124	Criminal Justice System	3
FIRE 291	Independent Study: Fire Science	1-3

Any course in this section not required in program.

**Postsecondary Certificate Program**

**First Semester** **CR**

FIRE 150	Introduction to Fire Science	3
FIRE 170	Sprinkler & Standpipe Systems	3
	<b>TOTAL HOURS</b>	<b>6</b>

**Second Semester**

FIRE 140	Hazardous Materials Recognition and Identification	1
FIRE 143	Hazardous Materials Properties and Characteristics	1
FIRE 145	Hazardous Materials Initial Response	1
HPER	Health and/or Physical Education Elective	1
FIRE 159	Fire Hydraulics	4
	<b>TOTAL HOURS</b>	<b>8</b>

**Third Semester**

FIRE 162	Fire Tactics and Strategy	3
FIRE 160	Fire Apparatus & Equipment	3
	<b>TOTAL HOURS</b>	<b>6</b>

**Fourth Semester**

FIRE 169	Rescue Techniques	4
ENGL 121	Composition I	3
MATH 115	Introduction to Algebra	3
	<b>TOTAL HOURS</b>	<b>10</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>30</b>

**FIRE PROTECTION ADMINISTRATION**

Experienced firefighters often continue to study to improve their job performance and prepare for promotion examinations. To progress to higher level positions, firefighters must acquire expertise in writing, public speaking, management and budgeting procedures. Officers are required to establish and maintain discipline and efficiency as well as direct activities of firefighters in their companies.

JCCC offers a variety of programs to the interested student. The Fire Protection Administration Program

provides training in administration of fire protection services. Upon successful completion of the four-semester program and a minimum of 65 credit hours the student will earn an Associate of Science Degree.

A student will be presumed to be in his first semester at the point where he enters the curriculum. Example, if someone starts in Semester two, he will follow the scheduled courses through semesters three, four and one.

**Associate of Science Degree**

**First Semester** **CR**

FIRE 162	Fire Tactics and Strategy	3
ENGL 121	Composition I	3
MATH 160	Algebra	3
FIRE 150	Introduction to Fire Science	3
	Humanities and/or Art Elective	3
	<b>TOTAL HOURS</b>	<b>15</b>

**Second Semester**

FIRE 220	Municipal Fire Administration	3
POLS 126	State and Local Government	3
CHEM 122	Principles of Chemistry	5
PSYC 130	Introduction to Psychology	3
HPER 240	Concepts of Physical Education	3
	<b>TOTAL HOURS</b>	<b>17</b>

**Third Semester**

FIRE 224	Emergency Management Operations	3
BUS 261	Business Law I	3
MATH 181	Statistics	3
DP 124	Business Data Processing	3
DP 140	Editor	1
BUS 141	Principles of Management	3
	<b>TOTAL HOURS</b>	<b>16</b>

**Fourth Semester**

FIRE 222	Fire Science Law	3
SPD 121	Public Speaking	3
BUS 140	Principles of Supervision	3
BUS 120	Management Attitudes & Motivation	3
	Approved Electives	3
	Science/Mathematics Elective	2
	<b>TOTAL HOURS</b>	<b>17</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>65</b>

**Approved Electives**

Any course in this section not required in program.

ADMJ 124	Criminal Justice System	3
ADMJ 140	Constitutional Case Law	3
BUS 263	Business Law II	3
SPD 120	Interpersonal Communications	3
ECON 230	Economics I	3
ACCT 121	Accounting I	3
ENGL 122	Composition II	3
DRAF 129	Interpreting Architectural Drawings	2
BUS 143	Personnel Management	3

## HOSPITALITY MANAGEMENT

The Hospitality Management Program at JCCC is a comprehensive study of the organization of food service and the public lodging industries. It provides an overview of the various departmental functions, positions of the industries in the American economic system and 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 areas of the industry. The curriculum covers food management, food service design, hotel-motel management operations, management accounting, sales promotion and advanced food preparation. Upon successful completion of 64 hours of credit in this career program the student will be awarded 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
ENGL 121	Composition I .....	3
HMGT 271	Seminar: Purchasing .....	3
MATH 120	Business Math .....	3
	<b>TOTAL HOURS .....</b>	<b>15</b>

#### Second Semester

HMGT 230	Intermediate Food Preparation .....	3
HMGT 128	Supervisory Management .....	3
HMGT 273	Seminar: Accounting .....	3
	OR	
HMGT 274	Seminar: Accounting .....	2
PSYC 121	Applied Psychology .....	3
HMEC 151	Nutrition .....	3
	<b>TOTAL HOURS .....</b>	<b>14-15</b>

#### Summer

HMGT 275	Seminar: Hospitality Management / Internship .....	3
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#### Third Semester

HMGT 277	Seminar: Menu Planning and Sales Promotion .....	3
HMGT 219	Hotel-Motel Operations .....	3
HMGT 221	Design Techniques .....	3
SPD 120	Interpersonal Communication .....	3
HMGT 223	Fundamentals of Baking .....	3
	<b>TOTAL HOURS .....</b>	<b>15</b>

#### 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
	<b>TOTAL HOURS .....</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS .....</b>	<b>64</b>

### Post Secondary Certificate Program

HMGT 121	Hospitality Management Fundamentals .....	3
HMGT 123	Basic Food Preparation .....	3
ENGL 121	Composition I .....	3
MATH 120	Business Math .....	3
HMGT 271	Seminar: Purchasing .....	3
	OR	
HMGT 272	Seminar: Purchasing .....	2
HMGT 273	Seminar: Accounting .....	3
	OR	
HMGT 274	Seminar: Accounting .....	2
HMGT 126	Food Management .....	4
HMGT 128	Supervisory Management .....	3
HMGT 275	Seminar: Internship .....	3
	Elective .....	3
	<b>TOTAL HOURS .....</b>	<b>29-31</b>

## INFORMATION / WORD PROCESSING

The Information / Word Processing Program is based on a survey and extensive analysis of the needs of over 3,000 area businesses conducted by JCCC's Institutional Research Office. There is a definite need for skilled word processing technicians.

The JCCC Associate of Applied Science Degree program provides the student technical background and skills needed to become a word processing specialist or a secretary actively working in word processing. Hands-on experience will be obtained in word processing concepts, equipment and procedures. The program is a curriculum requiring a minimum of 64 credit hours for the Associate of Applied Science Degree.

### Associate of Applied Science Degree

#### First Semester CR

ENGL 121	Composition I .....	3
SEC 136	Records Management .....	3
DP 124	Business Data Processing .....	3
MATH 120	Business Math or higher .....	3
	Technical Electives * .....	1
	Electives .....	3
	<b>TOTAL HOURS .....</b>	<b>16</b>

**Second Semester**

IWP	121	Word Processing Applications I	3
IWP	131	Word Processing Concepts	3
ACCT	111	Small Business Accounting	3
		OR	
ACCT	121	Accounting I	3
		Humanities and/or Art Elective	3
		Technical Elective *	1
		Electives	3
		<b>TOTAL HOURS</b>	<b>16</b>

**Third Semester**

IWP	132	Word Processing Applications II	3
IWP	241	Directed Experience I	1
SEC	230	Secretarial Procedures I	3
		OR	
		Technical Elective *	3
HPER		Health and/or Physical Education	
		Elective	1
		Technical Elective	2
		Electives	6
		<b>TOTAL HOURS</b>	<b>16</b>

**Fourth Semester**

IWP	250	Directed Experience II	1
ECON	130	Basic Economics	3
		OR	
		Social Science and/or Economics	
		Elective	3
		Technical Elective *	6
SEC	231	Secretarial Procedures II	3
		OR	
		Electives	3
		<b>TOTAL HOURS</b>	<b>16</b>
		<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

**\* Technical Electives**

CPCA	108	Word Processing on Microcomputers I	1
CPCA	110	Spreadsheets on Microcomputers I	1
CPCA	114	Databases on Microcomputers I	1
DP	140	Editor	1
SEC	135	Electronic Calculators	1
ENGL	109	Proofreading Skills	1
SPD	120	Interpersonal Communications	3
BUS	121	Introduction to Business	3
BUS	140	Principles of Supervision	3
BUS	141	Principles of Management	3
BUS	150	Business Communications	3

**INTERIOR MERCHANDISING**

Interior Merchandising at JCCC concentrates on developing the technical, creative and merchandising skills a student needs to be a professional in the interior products industry.

JCCC's Associate of Applied Science Degree offers a careful blend of formal course work and on-the-job training in residential, commercial, wholesale and manufacturing areas of the industry. Successful completion of the two-year, 65 credit hour curriculum will earn the Associate of Applied Science Degree.

**Associate of Applied Science Degree**

**First Semester**

			<b>CR</b>
ITMD	131	History of Furniture Design I	3
ITMD	121	Interior Design I	3
DRAF	261	Graphic Communications for	
		Interior Design	3
MATH	120	Business Math	3
FASH	150	Textiles	3
ENGL	121	Composition I	3
		<b>TOTAL HOURS</b>	<b>18</b>

**Second Semester**

ITMD	122	Interior Design II	3
BUS	140	Principles of Supervision	3
ITMD	132	Interior Products	3
MKT	134	Creative Retail Selling	3
ITMD	231	History of Furniture Design II	3
		<b>TOTAL HOURS</b>	<b>15</b>

**Third Semester**

ITMD	223	Contract Design	3
ITMD	273	Seminar: Practices & Procedures	2
ITMD	282	Interior Merchandising Practicum I	1
HUM	144	Introduction to Art History	3
ECON	230	Economics I	3
ITMD	140	Draperies, Treatment and	
		Construction	1
ITMD	145	Upholstery Construction	1
ITMD	234	Kitchen Planning and Design	1
		<b>TOTAL HOURS</b>	<b>15</b>

**Fourth Semester**

ITMD	224	Barrier Free Design	3
ITMD	275	Seminar: Budgeting & Estimating	2
ITMD	284	Interior Merchandising Practicum II	1
LC	150	Job Search Skills	1
ART		Art Elective	3
		Electives	5
HPER		Health and/or Physical Education	
		Elective	1
		<b>TOTAL HOURS</b>	<b>16</b>
		<b>TOTAL PROGRAM HOURS</b>	<b>64</b>



## INTERPRETER TRAINING

The employment outlook for interpreters for the hearing impaired looks 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, fingerspelling, interpreting and non-verbal communication. During the last semester of the program students will participate in a practicum class in which they will interpret under supervision in a variety of situations at JCCC and in the community. Successful completion of this program will lead to an Associate of Applied Science Degree.

### Associate of Applied Science Degree

<i>First Semester</i>		<b>CR</b>
INTR 125	American Sign Language I .....	5
INTR 130	Orientation to Interpreting .....	3
INTR 145	Deaf Culture .....	3
HPER	Health and/or Physical Education Elective .....	1
ENGL 121	Composition I .....	3
	<b>TOTAL HOURS .....</b>	<b>15</b>
<i>Second Semester</i>		
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
INTR 181	Interpreter Practicum I .....	1
	<b>TOTAL HOURS .....</b>	<b>15</b>
<i>Third Semester</i>		
INTR 140	American Sign Language III .....	5
INTR 250	Interpreting I .....	6
INTR 225	Physical & Psychological Aspects .....	2
	of Interpreting	
INTR 242	Fingerspelling II .....	2
	Social Science and/or Economics Elective .....	3
	<b>TOTAL HOURS .....</b>	<b>18</b>
<i>Fourth Semester</i>		
INTR 230	American Sign Language IV .....	4
INTR 255	Interpreting II .....	6
INTR 281	Interpreter Practicum II .....	3
	Humanities and/or Art Elective .....	3
	<b>TOTAL HOURS .....</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS .....</b>	<b>64</b>

## MANUFACTURING TECHNOLOGY

Employment in manufacturing is good, particularly if the individual is interested in and understands robotics. Industry continues to increase its use of mechanical workers for such tasks as assembling, painting and welding.

Robotics, metal fabrication, drafting and electronics are all a part of the Associate of Applied Science Degree program in Manufacturing Technology. Because manufacturing technology encompasses a variety of fields, the 64 credit hour curriculum is designed to give students background in a number of areas including technical drafting and writing, computer-aided drafting, circuit testing and inspection.

### Associate of Applied Science Degree

<i>First Semester</i>		<b>CR</b>
MFTG 121	Manufacturing Processes and Testing ..	3
MFTG 126	Machine Tool Processes I .....	3
DP 132	BASIC for Engineering Technology ...	3
MATH 133	Technical Mathematics I .....	4
ENGR 131	Engineering Graphics I .....	3
	<b>TOTAL HOURS .....</b>	<b>16</b>
<i>Second Semester</i>		
MFTG 116	Industrial Electronics I-DC —(first 8 wks.) .....	2
MFTG 118	Industrial Electronics II-AC (second 8 wks.) .....	2
MATH 134	Technical Mathematics II .....	5
DRAF 230	Computer-Aided Drafting 2-D .....	3
PHYS 125	Technical Physics I .....	4
	<b>TOTAL HOURS .....</b>	<b>16</b>
<i>Third Semester</i>		
MFTG 125	CNC Control Concepts and Programming .....	3
	Technical Electives .....	6
MFAB 130	MIG and TIG I .....	3
ENGL 121	Composition I .....	3
HPER	Health and/or Physical Education Elective .....	1
	<b>TOTAL HOURS .....</b>	<b>16</b>
<i>Fourth Semester</i>		
MFTG 122	Robotics .....	2
MFTG 124	Robotic Applications .....	2
MFTH 132	Metallurgy .....	1
	Technical Electives .....	5
	Social Science and/or Economics Elective .....	3
	Humanities and/or Art Elective .....	3
	<b>TOTAL HOURS .....</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS .....</b>	<b>64</b>

**Technical Electives**

MFTG 112	Hydraulics I	2
MFTG 114	Pneumatics	2
MFTG 120	Industrial Electronics III- Circuits	2
MFTG 128	Machine Tool Processes II	3
MFTG 135	Testing and Inspection	3
MFTG 211	Industrial Electronics IV - Troubleshooting I	2
MFTG 212	Industrial Electronics V - Troubleshooting II	2
MFTG 271	Manufacturing Technology Cooperative Ed I	2-9
MFTG 272	Manufacturing Technology Cooperative Ed II	2-9
MFTG 273	Manufacturing Technology Cooperative Ed III	2-9
MFAB 125	Adv. Gas & Arc Welding	3
ENGR 132	Engineering Graphics II	3
DRAF 231	Computer-Aided Drafting 3-D	3
PHYS 126	Technical Physics II	3
DRAF 232	Computer-Aided Drafting Applications	3

**Postsecondary Certificate Program  
Automated Manufacturing**

<b>First Semester</b>		<b>CR</b>
MATH 133	Technical Mathematics I	4
MFTG 121	Manufacturing Processing & Testing	3
TOTAL HOURS		7

**Second Semester**

MATH 134	Technical Mathematics II	5
MFTG 116	Industrial Electronics I - DC (first 8 weeks)	2
MFTG 118	Industrial Electronics II - AC (second 8 weeks)	2
TOTAL HOURS		9

**Third Semester**

PHYS 125	Technical Physics I	4
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**Fourth Semester**

MFTG 126	Machine Tool Processes I	3
OR		
MFTG 120	Industrial Electronics III - Circuits	2
DP 132	BASIC for Engineering Technology	3
TOTAL HOURS		5-6

**Fifth Semester**

MFTG 211	Industrial Electronics IV - Troubleshooting I	2
ENGR 131	Engineering Graphics I	3
ENGL 121	Composition I	3
TOTAL HOURS		8

**Sixth Semester**

DRAF 230	Introduction to Computer-Aided Drafting 2-D	3
MFTG 212	Industrial Electronics V - Troubleshooting II	2
OR		
MFTG 125	CNC Control Concepts and Programming	3
TOTAL HOURS		5-6

**Seventh Semester**

MFTG 112	Hydraulics I (first 8 weeks)	2
MFTG 114	Pneumatics I (second 8 weeks)	2
OR		
MFTG 122	Robotics	2
MFTG 124	Robotic Applications	2
TOTAL HOURS		4
<b>TOTAL PROGRAM HOURS</b>		<b>42-44</b>

Note: Students may substitute a maximum of 6 credit hours earned in Cooperative Education or Prior Learning credit for courses listed in semesters 5,6,7.

**Postsecondary Certificate Program  
Supervisory Option**

<b>First Semester</b>		<b>CR</b>
MFTG 121	Manufacturing Processing and Testing	3
MATH 133	Technical Mathematics I	4
TOTAL HOURS		7

**Second Semester**

DP 122	BASIC for Engineering Technology	3
MATH 134	Technical Mathematics II	5
TOTAL HOURS		8

**Third Semester**

MFTG 122	Robotics	2
ECON 130	Basic Economics	3
TOTAL HOURS		5

**Fourth Semester**

MFTG 123	Current Numerical Control Concepts	2
BUS 120	Management Attitudes and Motivation	3
TOTAL HOURS		5

**Fifth Semester**

ENGL 121	Composition I	3
BUS 140	Principles of Supervision	3
TOTAL HOURS		6

**Sixth Semester**

ENGL 123	Technical Writing	3
PSYC 124	Human Potential Seminar	3
OR		
PSYC 121	Applied Psychology	3
TOTAL HOURS		6
<b>TOTAL PROGRAM HOURS</b>		<b>37</b>

## MARKETING AND MANAGEMENT

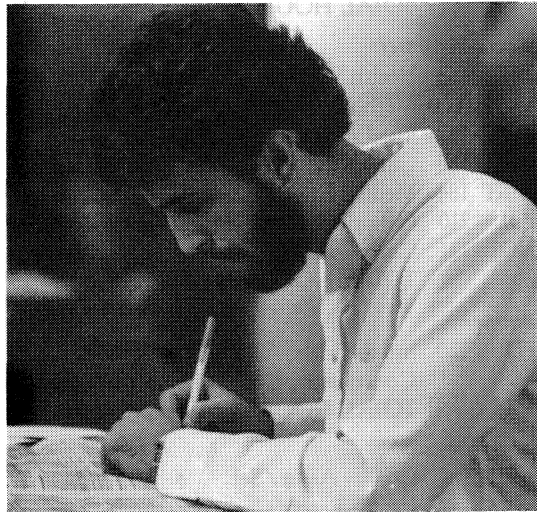
The field of marketing and management is large and competitive – about four million people work in the areas of sales, marketing and advertising, insurance agents/brokers, sales workers and sales managers. JCCC's program provides the background often required for entry-level positions.

JCCC's Marketing and Management Program focuses on the skills required in retail, wholesale or manufacturing sales, marketing research analysis, store management, buying and service sales. On-the-job experiences will provide opportunities to check the theoretical training gained in class against the everyday problems found in a practical business operation. Students should contact a counselor for planning their program in marketing and management. The program consists of 64 credit hours which will lead to an Associate of Applied Science Degree.

### Associate of Applied Science Degree

<i>First Semester</i>		<b>CR</b>
ACCT 111	Small Business Accounting .....	3
	OR	
ACCT 121	Accounting I .....	3
MKT 133	Salesmanship .....	3
	OR	
MKT 134	Creative Retail Selling .....	3
ENGL 121	Composition I .....	3
MKT 271	Marketing & Management Seminar: Organization & Operation .....	3
	Communications Elective .....	3
	<b>TOTAL HOURS .....</b>	<b>15</b>
<i>Second Semester</i>		
BUS 140	Principles of Supervision .....	3
MATH 120	Business Math .....	3
MKT 221	Sales Management .....	3
HPER	Health and/or Physical Education Elective .....	1
	Business Elective .....	3
MKT 272	Marketing & Management Seminar: Management Decisions .....	3
	<b>TOTAL HOURS .....</b>	<b>16</b>
<i>Third Semester</i>		
BUS 230	Marketing .....	3
BUS 261	Business Law I .....	3
PHIL 143	Ethics .....	3
BUS 243	Personnel Management .....	3
MKT 274	Marketing & Management Seminar: Management .....	3
	<b>TOTAL HOURS .....</b>	<b>15</b>

<i>Fourth Semester</i>		
BUS 141	Principles of Management .....	3
ECON 130	Basic Economics .....	3
	OR	
ECON 230	Economics I .....	3
MKT 273	Marketing & Management Seminar: Marketing Research .....	3
	Electives .....	9
	<b>TOTAL HOURS .....</b>	<b>18</b>
	<b>TOTAL PROGRAM HOURS .....</b>	<b>64</b>



## MEDICAL RECORD TECHNOLOGY

The medical record technician has the technical skills 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 medical record technician. This is a cooperative program between JCCC and Penn Valley Community College. Students must be formally accepted by both JCCC and Penn Valley to be admitted to this program.

When the program has been completed and the Associate of Applied Science Degree obtained, the student will be eligible to take the accreditation examination of the American Medical Record Association. To apply for admission into the program request "Admissions Procedures" for the Medical Record Program from the Admissions & Records Office.

**Associate of Applied Science Degree  
(Degree granted by Penn Valley)**

<i>First Semester</i>		<b>CR</b>
KMRT 160	Introduction to Medical Records Profession .....	2
KMRT 161	Health Record Systems, Analysis and Controls .....	3
BIOL 144	Human Anatomy/Physiology .....	5
DP 124	Business Data Processing .....	3
KMRT 151	Medical Terminology for Medical Records .....	3
<b>TOTAL HOURS .....</b>		<b>16</b>
 <i>Second Semester</i>		
KMRT 162	Health Statistics and Research Methods .....	2
KMRT 169	Legal Aspects of Medical Records .....	2
KMRT 166	Clinical Education I .....	2
KMRT 184	Medical Transcription .....	3
BIOL 210	Pathophysiology .....	4
ENGL 121	Composition I .....	3
<b>TOTAL HOURS .....</b>		<b>16</b>
 <i>Summer</i>		
SPD 120	Interpersonal Communications .....	3
	Constitution Requirements * .....	3
<b>TOTAL HOURS .....</b>		<b>6</b>
 <i>Third Semester</i>		
KMRT 164	Quality Assur / Sel Health Records .....	3
CPCA 108	Word Processing on Microcomputers I .	3
KMRT 163	Classification, Nom. Ind. and Reg. I .	3
KMRT 167	Clinical Education II .....	2
ENGL 122	Composition II .....	3
<b>TOTAL HOURS .....</b>		<b>14</b>
 <i>Fourth Semester</i>		
KMRT 175	Specialized Health Record Systems .	3
KMRT 168	Clinical Education III .....	2
KMRT 180	Classification, Nom., Ind. and Reg. II .	3
PSYC 130	Introduction to Psychology .....	3
BUS 243	Personnel Management .....	3
<b>TOTAL HOURS .....</b>		<b>14</b>
<b>TOTAL PROGRAM HOURS .....</b>		<b>66</b>

Enrollees may be full-time or part-time students. The above sequencing is required in order to complete the program in four semesters.

\* All graduates from Penn Valley must meet the Constitution requirements. See your JCCC counselor about courses.

**METAL FABRICATION**

Increases in population and income are expected to stimulate building and demand for heavy equipment that helps provide products that welders manufacture. The rate of expansion in the industries that produce these goods will determine the actual increase in the number of welders. Most openings, however, will arise because of the need to replace experienced welders who transfer to other occupations or retire.

JCCC provides three well-equipped laboratories that enable students to receive practical experience in oxyacetylene welding and cutting, stick-welding (SMAW), Heliarc (GTAW), metal fabrication, wire welding (GMAW-FCAW), machine shop, manufacturing processes and testing. This certificate program may be used to pursue an Associate of Applied Science Degree through JCCC's Manufacturing Technology program.

**Postsecondary Certificate Program**

<i>First Semester</i>		<b>CR</b>
MFAB 121	Introduction to Welding .....	3
MFAB 130	MIG and TIG I .....	3
MFTG 126	Machine Tool Processes I .....	3
MATH 133	Technical Math I .....	4
<b>TOTAL HOURS .....</b>		<b>13</b>
 <i>Second Semester</i>		
MFAB 125	Advanced Gas and Arc Welding .....	3
MFAB 230	MIG and TIG II .....	3
MFTG 128	Machine Tool Processes II .....	3
MFTG 132	Metallurgy .....	1
ENGL 121	Composition I .....	3
<b>TOTAL HOURS .....</b>		<b>13</b>
 The following eight credit hours must be completed in addition to the above courses:		
MFTG 121	Manufacturing Processes & Testing ...	3
MFAB 140	Introduction to Metal Fabrication ...	3
MFTG 122	Robotics .....	2
<b>TOTAL HOURS .....</b>		<b>8</b>
<b>TOTAL PROGRAM HOURS .....</b>		<b>34</b>

**NURSING**

As health care needs of a growing and aging population increase, so will employment opportunities for nurses. Changes in delivery systems, designed to reduce health care costs, are having a positive impact on the demand for nurses. New roles for RNs are being created by the development of such alternative health care programs as health maintenance organizations, ambulatory surgical clinics and free-standing emergency centers.

Accredited by the Kansas State Board of Nursing and the National League for Nursing, JCCC offers two

degree programs for nursing, Associate of Science and Associate of Arts Degrees. Both degrees focus on the biological, physical and behavioral sciences, as well as nursing. Because it is a difficult curriculum requiring long hours of classroom, laboratory and independent study, certain academic requirements must be met before enrolling. Upon successful completion of either degree, the student will be eligible to take the registered nurse licensing exam. The application deadline is February 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 office. The deadline for application is January 15.

### Associate of Science Degree

<i>Summer</i>	<b>CR</b>
<b>(Prior to Beginning Clinical Courses)</b>	
CHEM 122 Principles of Chemistry .....	5
Mathematics Elective .....	3
<b>TOTAL HOURS .....</b>	<b>8</b>

#### First Semester

BIOL 140 Human Anatomy .....	4
PSYC 130 Introduction to Psychology .....	3
NURS 121 Concepts of Health .....	8
<b>TOTAL HOURS .....</b>	<b>15</b>

#### Second Semester

BIOL 225 Human Physiology .....	4
PSYC 215 Child Development .....	3
NURS 122 Adaptation to Change .....	8
<b>TOTAL HOURS .....</b>	<b>15</b>

#### Summer

ENGL 121 Composition I .....	3
<b>TOTAL HOURS .....</b>	<b>3</b>

#### Third Semester

NURS 221 Short-Term Health Problems .....	9
SOC 122 Sociology .....	3
OR	
SOC 125 Social Problems .....	3
Communications Elective .....	3
<b>TOTAL HOURS .....</b>	<b>15</b>

#### Fourth Semester

NURS 222 Long-Term Health Problems .....	9
Humanities and/or Art Elective .....	3
HPER Health and/or Physical Education	
Elective .....	1
<b>TOTAL HOURS .....</b>	<b>13</b>
<b>TOTAL PROGRAM HOURS .....</b>	<b>69</b>

### Associate of Arts Degree

<i>Summer</i>	<b>CR</b>
<b>(Prior to Beginning Clinical Courses)</b>	
CHEM 122 Principles of Chemistry .....	5
Mathematics Elective .....	3
<b>TOTAL HOURS .....</b>	<b>8</b>

#### First Semester

BIOL 140 Human Anatomy .....	4
PSYC 130 Introduction to Psychology .....	3
NURS 121 Concepts of Health .....	8
<b>TOTAL HOURS .....</b>	<b>15</b>

#### Second Semester

BIOL 225 Human Physiology .....	4
PSYC 215 Child Development .....	3
NURS 122 Adaptation to Change .....	8
<b>TOTAL HOURS .....</b>	<b>15</b>

#### Summer

ENGL 121 Composition I .....	3
Humanities and / or Art Elective .....	3
<b>TOTAL HOURS .....</b>	<b>6</b>

#### Third Semester

NURS 221 Short-Term Health Problems .....	9
SOC 122 Sociology .....	3
OR	
SOC 125 Social Problems .....	3
ENGL 122 Composition II .....	3
<b>TOTAL HOURS .....</b>	<b>15</b>

#### Fourth Semester

NURS 222 Long-Term Health Problems .....	9
Humanities and / or Art Elective .....	3
HPER Health and / or Physical Education	
Elective .....	1
Communications Elective .....	3
<b>TOTAL HOURS .....</b>	<b>16</b>
<b>TOTAL PROGRAM HOURS .....</b>	<b>75</b>

## OCCUPATIONAL THERAPY ASSISTANT

The occupational therapy assistant (OTA) assists the registered occupational therapist. The OTA helps people with physical, emotional and developmental limitations achieve more functional lives. The two-year Occupational Therapy Program is in cooperation with Penn Valley Community College. The support courses are held at JCCC, and the clinical courses are held at Penn Valley and affiliated clinical agencies. Students must be formally accepted by both JCCC and Penn Valley. Course registration is at JCCC. Upon graduation the student will be granted a certificate and identification number. Consult a JCCC counselor about additional information.

**Associate in Applied Science Degree  
(Degree granted by Penn Valley)**

<i>First Semester</i>		<b>CR</b>
KOT 100	Introduction to Occupational Therapy *	2
LC 130	Medical Terminology I	2
BIOL 120	Life Science	4
PSYC 130	Introduction to Psychology	3
ENGL 121	Composition I	3
	Missouri Constitution **	3
	<b>TOTAL HOURS</b>	<b>17</b>

<i>Second Semester</i>		
KOT 101	Occupational Therapy Growth & Development	3
KOT 102	Occupational Therapy in Mental Health I	3
BIOL 144	Anatomy and Physiology	5
SPD 120	Interpersonal Communications	3
	<b>TOTAL HOURS</b>	<b>14</b>

<i>Summer</i>		
KOT 103	Clinical Conditions	3
KOT 104	Therapeutic Media	2
	Art Elective	3
	<b>TOTAL HOURS</b>	<b>8</b>

<i>Third Semester</i>		
KOT 201	Occupational Therapy in Mental Health II	5
KOT 202	Occupational Therapy in Physical Disabilities	5
KOT 203	Shop Practices/Orthotics	2
KOT 204	Therapeutic Media II	3
	<b>TOTAL HOURS</b>	<b>15</b>

<i>Fourth Semester</i>		
KOT 200	Principles of Occupational Therapy	2
KOT 205	Field Work in Occupational Therapy I	3
KOT 206	Field Work in Occupational Therapy II	3
KOT 207	Clinical Seminar	2
SOC 122	Sociology	3
	<b>TOTAL HOURS</b>	<b>13</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>67</b>

\* Enrollment in this course does not imply acceptance into program.

\*\* All graduates from Penn Valley must meet the Missouri Constitution requirement. See your JCCC counselor about courses.

**PARALEGAL**

Career prospects are excellent for the paralegals. Private law firms will continue to be the largest employers of legal assistants. Other organizations such as corporate legal departments, insurance companies, real estate and title firms, and banks should continue hiring paralegals. The Paralegal Program at JCCC has grown to be one of the most popular programs available.

JCCC's Paralegal Program is approved by the American Bar Association. Upon successful completion of 64 credit hours an Associate of Applied Science Degree will be awarded. A Certificate Program is also available to qualified individuals with the successful completion of 24 credit hours of paralegal specialty courses (PL designation), Composition I, Interpersonal Communications or other speech courses, and Integrated Software-IBM or Business Data Processing.

**Associate of Applied Science Degree**

<i>First Semester</i>		<b>CR</b>
PL 121	Introduction to Law	3
PL 123	Paralegal Professional Studies	1
PL 131	Legal Research	3
ENGL 121	Composition I	3
	Social Science and/or Economics Elective	3
	Humanities and/or Art Elective	3
	<b>TOTAL HOURS</b>	<b>16</b>

<i>Second Semester</i>		
PL 132	Litigation I	3
SPD 120	Interpersonal Communication	3
MATH 120	Business Math	3
	Paralegal Electives	4
DP 124	Business Data Processing	3
	OR	
CPCA 128	Integrated Software-IBM	3
	<b>TOTAL HOURS</b>	<b>16</b>

<i>Third Semester</i>		
PL 271	Seminar: Legal Interviewing and Investigation	2
PL 275	Paralegal Internship I	1
HPER	Health and/or Physical Education	
	Elective	1
	Paralegal Elective	3
	Electives	9
	<b>TOTAL HOURS</b>	<b>16</b>

<i>Fourth Semester</i>		
PL 276	Paralegal Internship II	1
	Paralegal Elective	3
	Electives	12
	<b>TOTAL HOURS</b>	<b>16</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

**Paralegal Electives**

PL	140	Computerized Litigation Support	1
PL	152	Real Estate Law	3
PL	162	Family Law	3
PL	171	Law Office Systems	3
PL	205	Legal Writing	1
PL	212	Business Organizations	3
PL	221	Commercial Transactions	1
PL	232	Litigation II	3
PL	241	Wills, Trusts & Probate Administration	3
PL	242	Estate Planning	3
PL	261	Retirement Plans, Qualifications and Administration	1
PL	264	Workers' Compensation	1
PL	268	Bankruptcy	1
ADMJ	141	Criminal Law	3

**Postsecondary Certificate Program  
(for qualifying students)**

<i>Required Courses</i>			<b>CR</b>
PL	121	Introduction to Law	3
PL	123	Paralegal Professional Studies	1
PL	131	Legal Research	3
PL	132	Litigation I	3
PL	271	Seminar: Legal Interviewing and Investigation	2
PL	275	Paralegal Internship I	1
ENGL	121	Composition I	3
MATH	115	Introduction to Algebra or higher mathematics course	3
SPD	120	Interpersonal Communication	3
DP	124	Business Data Processing	3
OR			
CPCA	128	Integrated Software-IBM	3
Paralegal Electives			11
<b>TOTAL HOURS</b>			<b>36</b>

The Accelerated Certificate Program (ACP) is a highly concentrated daytime course of study during the summer semester with completion during the following fall semester. During the summer semester students will attend class for nine (9) weeks, six (6) hours a day, Monday through Thursday. Courses may be taken in the fall semester during the day, evening, or both so long as curriculum requirements are met.

Prior to enrolling for the Accelerated Certificate Program a student must have:

- Earned at least an associate degree.
- Earned a 2.5 cumulative grade point average (GPA) for all prior college credits.
- Successfully completed ENGL 121 Composition I or an equivalent college English course.

Successfully completed SPD 120 Interpersonal Communication or equivalent college level speech course.

Completed a pre-enrollment interview.

<i>Summer</i>			<b>CR</b>
PL	121	Introduction to Law	3
PL	123	Paralegal Professional Studies	1
PL	131	Legal Research	3
PL	132	Litigation I	3
PL	152	Real Estate Law	3
<b>TOTAL HOURS</b>			<b>13</b>

<i>Fall Semester</i>			
PL	271	Seminar: Legal Interviewing/ Investigation	2
PL	275	Paralegal Internship I	1
Paralegal Electives			8
<b>TOTAL HOURS</b>			<b>11</b>

**PHYSICAL THERAPY ASSISTANT**

The physical therapy assistant, under the supervision of a licensed physical therapist, performs direct patient care. As prescribed by a physician, physical agents such as heat, light, sound, water, cold, massage, exercise and rehabilitation techniques are used by the therapist.

JCCC offers a cooperative program with Penn Valley Community College. The Physical Therapy Assistant Program at PVCC 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. All course registration is at JCCC. Students must be accepted into the program by both JCCC and PVCC. Consult a JCCC counselor for additional information about the program.

**Associate in Applied Science Degree  
(Degree granted by Penn Valley)**

<i>First Semester</i>			<b>CR</b>
LC	130	Medical Terminology I	2
BIOL	122	Principles of Biology	3
KPT	151	Introduction to Physical Therapy	2
PSYC	130	Introduction to Psychology	3
Missouri Constitution *			3
CHEM	122	Principles of Chemistry	5
<b>TOTAL HOURS</b>			<b>18</b>

<i>Second Semester</i>			
BIOL	140	Human Anatomy	4
ENGL	121	Composition I	3
KPT	152	Fundamentals of Modalities I	3
SOC	122	Sociology	3
KPT	159	Clinical Pathology	4
KPT	165	Physics	1
<b>TOTAL HOURS</b>			<b>18</b>



**Summer**

KPT 153	Kinesiology	4
KPT 161	Fundamentals of Modalities II	5
	<b>TOTAL HOURS</b>	<b>9</b>

**Third Semester**

KPT 155	Rehabilitation	4
KPT 158	Therapeutic Exercise	4
KPT 170	Clinical Experience I	3
KPT 171	Clinical Seminar	1
BIOL 225	Human Physiology	4
	<b>TOTAL HOURS</b>	<b>16</b>

**Fourth Semester**

KPT 172	Clinical Experience II	12
SPD 120	Interpersonal Communications	3
	<b>TOTAL HOURS</b>	<b>15</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>76</b>

\* All graduates from Penn Valley must meet the Missouri Constitution requirement. See your 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. Students must be formally accepted into the program by both JCCC and PVCC. Areas of study will be in radiographic exposure, positioning and anatomy, and the use of imaging equipment.

Related courses will be taken at JCCC with lab and clinical courses held at PVCC or at a cooperating health facility.

**Associate in Applied Science Degree  
(Degree granted by Penn Valley)**

**First Semester**

**CR**

KRAD 169	Medical and Radiology Terms	3
KRAD 170	Radiologic Technology I	3
KRAD 171	Radiographic Exposures I	3
KRAD 172	Radiographic Positioning I	3
KRAD 173	Clinical Training I	2
	<b>TOTAL HOURS</b>	<b>14</b>

**Second Semester**

BIOL 144	Anatomy and Physiology	5
KRAD 174	Radiographic Exposures II	3
KRAD 175	Clinical Training II	2
KRAD 176	Radiographic Positioning II	3
PSYC 130	Introduction to Psychology	3
	<b>TOTAL HOURS</b>	<b>16</b>

**Summer**

ENGL 121	Composition I	3
SOC 122	Sociology	3
KRAD 178	Clinical Training III	1
	<b>TOTAL HOURS</b>	<b>7</b>

**Third Semester**

PSCI 120	Physical Science	4
SPD 120	Interpersonal Communications	3
KRAD 279	Radiographic Positioning III	3
KRAD 280	Clinical Training IV	2
	<b>TOTAL HOURS</b>	<b>12</b>

**Fourth Semester**

	Constitution Requirement *	3
KRAD 278	Radiologic Technology II	3
KRAD 281	Physics of X-ray Equipment	4
KRAD 282	Clinical Training V	2
	<b>TOTAL HOURS</b>	<b>12</b>

**Summer**

KRAD 283	Final Seminar	3
KRAD 284	Clinical Training VI	1
KRAD 285	Specialty Procedures	3
	<b>TOTAL HOURS</b>	<b>7</b>

**Fifth Semester**

KRAD 287	Clinical Training VII	3
KRAD 288	Specialty Training Elective **	9
	<b>TOTAL HOURS</b>	<b>3-12</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>71</b>

\* All graduates from Penn Valley must meet the Constitution requirement. See JCCC counselor about courses.

\*\* Students must have consent of Advisor /Director prior to enrollment. Students DO NOT have to complete this course for graduation.

## RECREATIONAL LEADERSHIP

Recreational leaders are actively involved with people of all ages. They organize and direct leisure activities in public agencies, parks, institutions, YMCAs, scouting, churches and corporations. Recreation is a major facet of American life today and leisure and recreation spending is constantly increasing. There is a continuous demand for qualified recreational leaders to provide organized instruction and supervision of leisure activities.

The career program in recreational leadership provides comprehensive instruction in the theoretical and practical aspects of recreation. The program grants the Associate of Applied Science Degree that is not designed for transfer to four-year institutions. Program emphasis is on skill training and leadership experience

in recreational settings. Opportunities are provided for students to participate in learning work experiences at various recreational agencies located in Johnson County.

**Associate of Applied Science Degree**

<i>First Semester</i>		<b>CR</b>
ENGL 121	Composition I .....	3
HPER 205	Individual Lifetime Sports .....	2
HPER 222	Introduction to Recreational Service ..	3
ART 123	Elementary Art Methods .....	3
HPER 200	First Aid/CPR .....	2
HPER	Physical Education Elective .....	3
<b>TOTAL HOURS .....</b>		<b>16</b>

<i>Second Semester</i>		
HPER 224	Outdoor Recreation .....	3
PSYC 130	Introduction to Psychology .....	3
	OR	
SOC 122	Sociology .....	3
	OR	
SOC 125	Social Problems .....	3
BIOL 120	Life Science .....	4
	OR	
PSCI 120	Physical Science .....	4
MUS 123	Introduction to Music Fundamentals ..	2
HPER	Physical Education Elective .....	1
	Elective .....	3
<b>TOTAL HOURS .....</b>		<b>16</b>

<i>Third Semester</i>		
HPER 202	Personal and Community Health .....	3
HPER 228	Recreation Leadership and Supervision	3
HPER 220	Sports Officiating .....	3
	Elective .....	3
	Humanities and/or Art Elective .....	3
HPER	Physical Education Elective .....	1
<b>TOTAL HOURS .....</b>		<b>16</b>



**Fourth Semester**

HPER 230	Recreational Field Study .....	3
HPER 234	Recreation Programming .....	3
	Electives .....	6
SPD 121	Public Speaking .....	3
HPER	Physical Education Elective .....	1
<b>TOTAL HOURS .....</b>		<b>16</b>
<b>TOTAL PROGRAM HOURS .....</b>		<b>64</b>

**Recommended Electives**

ACCT 111	Small Business Accounting .....	3
ACCT 115	Accounting for Non-Profit Organizations .....	3
ACCT 121	Accounting I .....	3
BUS 120	Management Attitudes and Motivation .....	3
CPCA 130	Microcomputer BASIC Programming with Data Files .....	4
DP 124	Business Data Processing .....	3
MATH 120	Business Math .....	3
SEC 110	Beginning Typing .....	3
THEA 125	Children's Theater I .....	3

**RESPIRATORY THERAPY**

Employment opportunities in this field are expected to grow faster than the average for all occupations through the mid 1990s. Several factors contribute to this expected growth: population growth, widespread accessibility of hospital and surgical care through public and private health insurance, and the development of new diagnostic and treatment procedures in this field. The health care needs of an aging population will also play a role in the future of the respiratory therapist.

Interested students should consult with the program coordinator or a JCCC counselor for additional details.

**Associate of Science Degree**

<i>Summer</i>		<b>CR</b>
CHEM 122	Principles of Chemistry * .....	5
ENGL 121	Composition I * .....	3
	SocialScience/Economics Elective .....	3
<b>TOTAL HOURS .....</b>		<b>11</b>

<i>First Semester</i>		
BIOL 120	Life Science * .....	4
BIOL 140	Human Anatomy * .....	4
MATH 171	College Algebra * .....	3
PSCI 120	Physical Science * .....	4
<b>TOTAL HOURS .....</b>		<b>15</b>

**Second Semester**

BIOL	225	Human Physiology *	4
BIOL	230	Microbiology *	3
BIOL	231	Microbiology Lab *	2
SPD	120	Interpersonal Communications	3
		Humanities and/or Art Elective	3
		<b>TOTAL HOURS</b>	<b>15</b>

\* Indicates prerequisite courses which must be completed prior to the clinic year.

**Summer**

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
		<b>TOTAL HOURS</b>	<b>10</b>

**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
		<b>TOTAL HOURS</b>	<b>14</b>

**Fourth Semester**

RT	272	Clinical Practice II	4
RT	231	Clinical Topics & Procedures II	4
RT	233	Respiratory Care of Children	2
RT	236	Cardiopulmonary Medicine III	2
		<b>TOTAL HOURS</b>	<b>12</b>
		<b>TOTAL PROGRAM HOURS</b>	<b>77</b>

**Certificate of Completion –**

**Total Program Hours 68**

Students who successfully complete the required prerequisites and the clinic core may receive a certificate of completion in lieu of the Associate of Science Degree. They will technically meet the requirements of the respiratory therapy registry examination process, allowing them to become registered respiratory therapists. Students are encouraged, however, to pursue the Associate of Science Degree, especially if they plan to continue their education.

**SECRETARIAL CAREERS**

An abundance of jobs will be available to secretaries with strong typing, shorthand, and word processing skills. The steadily growing need to process information ensures a future for secretaries. Though application of new technologies will change the secretary's work environment, equipment is not expected to replace the individual.

JCCC's two-year secretarial programs focus on developing skills in typing, records management, accounting, data processing and word processing. Students will have the opportunity to learn on a wide range of automated business machines in modern laboratories, using the latest in equipment and procedures. With a minimum of 64 credit hours, an Associate of Applied Science Degree may be earned in either Secretarial Science, Administrative Office Management, Legal Secretary Option, or Medical Secretary Option. Consult with a JCCC counselor for planning the specific area of emphasis desired. The student may earn a certificate in the secretarial program with the successful completion of 35 credit hours.

**Associate of Applied Science Degree Secretarial Science**

<b>First Semester</b>		<b>CR</b>	
BUS	121	Introduction to Business	3
ENGL	121	Composition I	3
SEC	122	Intermediate Typing	3
SEC	125	Shorthand I	3
		OR	
SEC	130	Stenoscrypt Speedwriting Shorthand	3
SEC	136	Records Management	3
		Electives	2
		<b>TOTAL HOURS</b>	<b>17</b>

**Second Semester**

DP	124	Business Data Processing	3
SEC	126	Shorthand II	3
		OR	
SEC	131	Stenoscrypt Dictation Transcription	3
SEC	135	Electronic Calculators	1
SEC	223	Machine Transcription	3
SEC	274	Human Relations Seminar	3
		OR	
SEC	275	Human Relations Seminar	2
		Electives	3
		<b>TOTAL HOURS</b>	<b>15-16</b>

**Third Semester**

SEC	230	Secretarial Procedures I	3
ACCT	121	Accounting I	3
		OR	
ACCT	111	Small Business Accounting	3
MATH	120	Business Math	3
		Humanities and/or Art Elective	3
SEC	271	Management Seminar	3
		OR	
SEC	272	Management Seminar	2
IWP	121	Word Processing Applications I	3
		<b>TOTAL HOURS</b>	<b>17-18</b>

**Fourth Semester**

SEC 231	Secretarial Procedures II	3
PL 121	Introduction to Law	3
ECON 230	Economics I	3
	OR	
ECON 130	Basic Economics	3
HPER	Health and/or Physical Education	
	Elective	1
SEC 276	Administrative Office Management Seminar	3
	OR	
SEC 277	Administrative Office Management Seminar	2
	Electives *	2-3
	<b>TOTAL HOURS</b>	<b>14-16</b>
	<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

**Recommended Electives**

BUS 150	Business Communications	3
BUS 243	Personnel Management	3
ACCT 122	Accounting II	3
BUS 123	Personal Finance	3
SEC 221	Production Typing	3
PSYC 130	Introduction to Psychology	3

\* The associate degree requires 64 credit hours minimum. If necessary an additional 3-hour elective may be added.

**Vocational Certificate Program**

SEC 122	Intermediate Typing	3
ACCT 111	Small Business Accounting	3
SEC 230	Secretarial Procedures I	3
SEC 231	Secretarial Procedures II	3
ENGL 121	Composition I	3
SEC 136	Records Management	3
SEC 135	Electronic Calculators	1
IWP 121	Word Processing Applications I	3
	OR	
SEC 223	Machine Transcription	3
MATH 120	Business Math	3

\* You must take two of the following seminar courses.

SEC 271	Management Seminar	3
	OR	
SEC 272	Management Seminar	2
SEC 274	Human Relations Seminar	3
	OR	
SEC 275	Human Relations Seminar	2
SEC 276	Administrative Office Management Seminar	3
	OR	
SEC 277	Administrative Office Management Seminar	2

**Associate of Applied Science****Administrative Office Management****First Semester**

		<b>CR</b>
BUS 121	Introduction to Business	3
ENGL 121	Composition I	3
SEC 110	Beginning Typing	3
MATH 120	Business Math	3
SEC 136	Records Management	3
	<b>TOTAL HOURS</b>	<b>15</b>

**Second Semester**

DP 124	Business Data Processing	3
SEC 274	Human Relations Seminar	3
	OR	
SEC 275	Human Relations Seminar	2
PL 121	Introduction to Law	3
BUS 150	Business Communications	3
	Elective	3
	<b>TOTAL HOURS</b>	<b>14-15</b>

**Third Semester**

SEC 230	Secretarial Procedures I	3
ACCT 111	Small Business Accounting	3
SPD 120	Interpersonal Communications	3
SEC 271	Management Seminar	3
	OR	
SEC 272	Management Seminar	2
	Humanities and/or Art Elective	3
	Elective	3
	<b>TOTAL HOURS</b>	<b>17-18</b>

**Fourth Semester**

ECON 130	Basic Economics	3
	OR	
ECON 230	Economics I	3
HPER	Health and/or Physical Education	
	Elective	1
SEC 276	Administrative Office Management Seminar	3
	OR	
SEC 277	Administrative Office Management Seminar	2
BUS 243	Personnel Management	3
	Electives *	6-9
	<b>TOTAL HOURS</b>	<b>15-16</b>
	<b>TOTAL CREDIT HOURS</b>	<b>64</b>

**Recommended Electives**

SPD 122	Group Discussion	3
SOC 125	Social Problems	3
SEC 130	Stenoscrypt and Speedwriting	
	Shorthand	3
SEC 135	Electronic Calculators	1

\* The associate degree requires 64 credit hours minimum. If necessary an additional 3-hour elective may be added.

**Associate of Applied Science Degree  
Medical Secretary**

<i>First Semester</i>		<b>CR</b>
SEC 122	Intermediate Typing . . . . .	3
LC 130	Medical Terminology . . . . .	3
ENGL 121	Composition I . . . . .	3
SEC 125	Shorthand I . . . . .	3
	OR	
IWP 121	Word Processing Applications I . . . . .	3
SEC 135	Electronic Calculators . . . . .	1
SEC 136	Records Management . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>16</b>

<i>Second Semester</i>		
SEC 223	Machine Transcription . . . . .	3
SEC 126	Shorthand II . . . . .	3
	OR	
IWP 132	Word Processing Applications II . . . . .	3
ECON 130	Basic Economics . . . . .	3
	OR	
ECON 230	Economics I . . . . .	3
HPER	Health and/or Physical Education Elective . . . . .	1
SEC 274	Human Relations Seminar . . . . .	3
	OR	
SEC 275	Human Relations Seminar . . . . .	2
	Electives . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>15-16</b>

<i>Third Semester</i>		
SEC 230	Secretarial Procedures I . . . . .	3
MATH 120	Business Math . . . . .	3
PL 121	Introduction to Law . . . . .	3
SEC 271	Management Seminar . . . . .	3
	OR	
SEC 272	Management Seminar . . . . .	2
	Elective . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>14-15</b>

<i>Fourth Semester</i>		
SEC 231	Secretarial Procedures II . . . . .	3
SEC 184	Medical Transcription . . . . .	3
ACCT 121	Accounting I . . . . .	3
	OR	
ACCT 111	Small Business Accounting . . . . .	3
SEC 276	Administrative Office Management Seminar . . . . .	3
	OR	
SEC 277	Administrative Office Management Seminar . . . . .	2
	Humanities and/or Art Elective . . . . .	3
	Elective * . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>17-18</b>
	<b>TOTAL PROGRAM HOURS . . . . .</b>	<b>64</b>



\* The associate degree requires 64 credit hours minimum. If necessary an additional 3-hour elective may be added.

**Recommended Electives**

SEC 221	Production Typing . . . . .	3
DP 124	Business Data Processing . . . . .	3
BUS 150	Business Communications . . . . .	3
PSYC 130	Introduction to Psychology . . . . .	3
SEC 225	Dictation and Transcription . . . . .	3
BIOL 144	Human Anatomy/Physiology . . . . .	3
SPD 120	Interpersonal Communications . . . . .	3

**Associate of Applied Science Degree**

**Legal Secretary**

<i>First Semester</i>		<b>CR</b>
ENGL 121	Composition I . . . . .	3
SEC 136	Records Management . . . . .	3
SEC 122	Intermediate Typing . . . . .	3
SEC 223	Machine Transcription . . . . .	3
HPER	Health and/or Physical Education Elective . . . . .	1
PL 121	Introduction to Law . . . . .	3
	<b>TOTAL HOURS . . . . .</b>	<b>16</b>

<i>Second Semester</i>		
SEC 142	Legal Transcription . . . . .	3
SEC 140	Legal Secretary I . . . . .	2
ECON 230	Economics I . . . . .	3
	OR	
ECON 130	Basic Economics . . . . .	3
	Humanities and/or Art Elective . . . . .	3
SEC 135	Electronic Calculators . . . . .	1
SEC 274	Human Relations Seminar . . . . .	3
	OR	
SEC 275	Human Relations Seminar . . . . .	2
	<b>TOTAL HOURS . . . . .</b>	<b>14-15</b>

**Third Semester**

SEC	125	Shorthand I	3
		OR	
IWP	121	Word Processing Applications I	3
SEC	230	Secretarial Procedures I	3
MATH	120	Business Math	3
PL	131	Legal Research & Writing	3
SEC	271	Management Seminar	3
		OR	
SEC	272	Management Seminar	2
		Electives	3
		<b>TOTAL HOURS</b>	<b>17-18</b>

**Fourth Semester**

SEC	126	Shorthand II	3
		OR	
IWP	132	Word Processing Applications II	3
SEC	231	Secretarial Procedures II	3
ACCT	121	Accounting I	3
		OR	
ACCT	111	Small Business Accounting	3
SEC	276	Administrative Office Management Seminar	3
		OR	
SEC	277	Administrative Office Management Seminar	2
		Electives *	3
		<b>TOTAL HOURS</b>	<b>14-15</b>
		<b>TOTAL PROGRAM HOURS</b>	<b>64</b>

\* The associate degree requires 64 credit hours minimum. If necessary an additional 3-hour elective may be added.

**Recommended Electives**

BUS	150	Business Communications	3
DP	124	Business Data Processing	3
BUS	121	Introduction to Business	3
SEC	225	Dictation and Transcription	3
BUS	261	Business Law I	3
BUS	263	Business Law II	3
PL	171	Law Office Systems	3
SPD	120	Interpersonal Communication	3

**ANIMAL HEALTH**

A person with a background in small animal health technology can expect to find employment opportunities in the areas of laboratory care and pharmaceutical animal colonies and in assisting a veterinarian in providing professional services and in performing office routines.

JCCC's Small Animal Health Program is offered in cooperation with the Animal Health Technology Program at Maple Woods Community College. Students will study areas of sanitation and animal care,

preparation of animals for surgery and anesthetic management; they also perform lab work and use radiologic techniques. The program features a supervised intensive clinical study under the direction of a veterinarian. Students must be accepted into the program by both JCCC and Maple Woods Community College.

**Associate in Applied Science Degree  
(Degree granted by Maple Woods)**

<b>First Semester</b>		<b>CR</b>	
KSAH	100	Introduction to Small Animal Technology	2
KSAH	101	Principles of Animal Science I	3
BIOL	127	General Zoology	5
ACCT	111	Small Business Accounting	3
ENGL	121	Composition I	3
KSAH	108	Clinical Mathematics	1
		<b>TOTAL HOURS</b>	<b>17</b>

**Second Semester**

KSAH	110	Principles of Animal Science II	3
KSAH	111	Sanitation and Animal Care	2
KSAH	120	Clinical Pathological Technology I	4
CHEM	122	Principles of Chemistry	5
SPD	120	Interpersonal Communications	3
		<b>TOTAL HOURS</b>	<b>17</b>

**Summer**

KSAH	214	Animal Health Internship	6
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**Third Semester**

KSAH	200	Animal Hospital Technology I	3
KSAH	202	Animal Technology Anatomy	5
KSAH	212	Large Animal Technology	4
BIOL	230	Microbiology	3
BIOL	231	Microbiology Lab	2
		<b>TOTAL HOURS</b>	<b>17</b>

**Fourth Semester**

KSAH	203	Laboratory Animal Technology	2
KSAH	209	Equine Medicine and Management	3
KSAH	210	Animal Hospital Technology II	3
KSAH	211	Clinical Pathological Technology II	5
KSAH	213	Radiology and Electronic Procedures	2
		American Institution Option *	3
		<b>TOTAL HOURS</b>	<b>18</b>
		<b>TOTAL PROGRAM HOURS</b>	<b>75</b>

\* All graduates from Maple Woods must meet the Constitution requirements. See your JCCC counselor about courses.

# COURSE PREFIX LISTING

Academic Achievement Center  
Accounting  
Administration of Justice  
Agribusiness  
Anthropology  
Art  
Automotive Technology  
Aviation Maintenance Technology  
Banking and Finance  
Biology  
Biomedical Equipment Technology  
Business Administration  
Chemistry  
Commercial Art  
Computers: Personal Computer  
Computer Science  
Computer Systems Technology  
Correctional Services  
Data Processing  
Dental Hygiene  
Drafting Technology  
Economics  
Education  
Electronics  
Emergency Medical Science  
Energy Technology  
Engineering

LC  
ACCT  
ADMJ  
AGRI  
ANTH  
ART  
AUTO  
KAV  
AIB  
BIOL  
BMT  
BUS  
CHEM  
CA  
CPCA  
CS  
CST  
KADJ  
DP  
DHYG  
DRAF  
ECON  
EDUC  
ELEC  
EMS  
ENER  
ENGR

English ENGL  
Equine Studies EQUUS  
Fashion Merchandising FASH  
Fire Protection/Prevention/Administration FIRE  
Foreign Language FL  
Health/Physical Education/Recreation HPER  
Hearing Impaired HRIM  
History HIST  
Home Economics HMEC  
Horticulture HORT  
Hospitality Management HMGT  
Humanities HUM  
Information/Word Processing IWP  
Interior Merchandising ITMD  
Interpreter Training INTR  
Journalism JOUR  
Manufacturing Technology MFTG  
Marketing and Management MKT  
Mathematics MATH  
Medical Record Technology KMRT  
Metal Fabrication MFAB  
Music MUS  
Nursing NURS  
Occupational Therapy KOT  
Paralegal PL  
Philosophy PHIL  
Photography PHOT  
Physical Science PSCI  
Physical Therapy Assistant KPT  
Physics PHYS  
Political Science POLS  
Psychology PSYC  
Radiologic Technology KRAD  
Respiratory Therapy RT  
Secretarial Careers SEC  
Animal Health Technology KSAH  
Sociology SOC  
Speech and Debate SPD  
Theater THEA



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# COURSES BY DIVISION LISTING

## **Business and Economics Division**

Accounting  
Banking and Finance  
Business Administration  
Economics  
Fashion Merchandising  
Home Economics  
Hospitality Management  
Interior Merchandising  
Marketing and Management  
Paralegal  
Secretarial Careers

## **Communications Division**

Academic Achievement Center  
English  
Foreign Language  
Interpreter Training  
Journalism  
Speech and Debate  
Theater

## **Computer and Information Systems**

Data Processing  
Computers: Personal Computer Applications  
Information/Word Processing

## **Engineering and Technology Division**

Automotive Technology  
Aviation Maintenance  
Biomedical Equipment Technology  
Civil Engineering Technology  
Data Communications Technology  
Drafting Technology  
Electronics Technology  
Energy Technology

Engineering  
Fire Prevention  
Fire Protection  
Fire Protection Administration  
Manufacturing Technology  
Mathematics  
Metal Fabrication

## **Humanities and Social Science Division**

Administration of Justice  
Anthropology  
Art  
Basic Police Academy  
Commercial Art  
Correctional Services  
Education  
History  
Humanities  
Music  
Philosophy  
Photography  
Political Science  
Sociology

## **Natural and Health-Related Sciences Division**

Agribusiness  
Biology  
Chemistry  
Dental Hygiene  
Emergency Medical Science  
Equine Studies  
Horticulture  
Medical Record Technology  
Mobile Intensive Care Technician  
Nursing  
Occupational Therapy Assistant  
Physical Science  
Physical Therapy Assistant  
Physics  
Radiologic Technology  
Respiratory Therapy  
Animal Technology

## **Physical Education Division**

Health  
Physical Education  
Recreational Leadership

## **Student Development Division**

Hearing Impaired

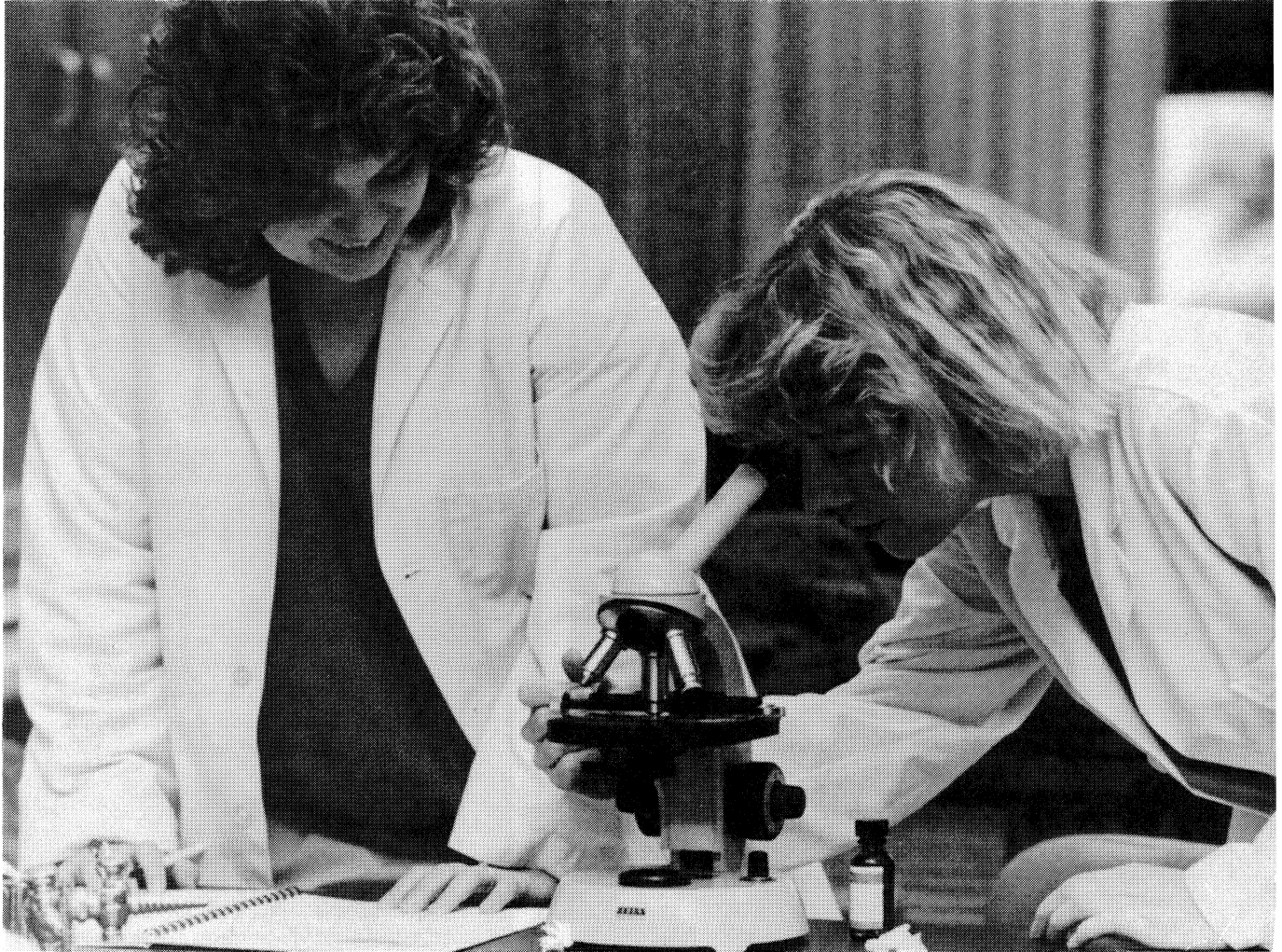


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# ACADEMIC OFFERINGS



## ACADEMIC ACHIEVEMENT CENTER

### DEVELOPMENTAL COURSES

The following courses are designed to assist students to develop and enhance 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 (ICR)

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 (ICR)

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. Format includes reading, discussion and practice exercises. 3 hrs./wk. for 5 wks.

#### LC 104 READING COMPREHENSION (ICR)

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 emphasizing survey techniques and vocabulary development. By arrangement.

#### LC 105 READING RATE (ICR)

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 (ICR)

Students will take diagnostic tests to determine their appropriate starting level. Students will concentrate on techniques for unlocking meaning through context clues and a familiarity with roots, prefixes and suffixes. By arrangement.

#### LC 107 SPELLING IMPROVEMENT (ICR)

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 112 BASIC MATH REVIEW

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 (ICR)

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, the atomic theory, thermochemistry, kinetic theory, nuclear structure and chemical equilibrium.

By arrangement.

**LC 125****FUNDAMENTALS OF READING (3CR)**

*Prerequisite: Appropriate assessment score*

Fundamentals of Reading is a basic level reading course which 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 level 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 level course includes a review of the skills taught in Reading Skills Improvement with an additional focus on critical reading skills along with vocabulary development, memory techniques, rate improvement and analytical skills.

3 hrs./wk.

**REGULAR ACADEMIC  
ACHIEVEMENT CENTER COURSES****LC 110****POWER SPELLING (3CR)**

*Prerequisite: Appropriate score on assessment test*

This is a course for students who wish to improve their spelling but have not been successful in traditional

study programs. A step-by-step process using correct spelling of morphographs (units of meaning) and how to combine them to correctly spell hundreds of words is used in this course. 3 hrs./wk.

**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 include learning styles, techniques of time management, test taking, study skills and available college support services. 3 hrs. lecture/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 grammar, spelling, vocabulary, reading rate/comprehension, study skills, mathematics, algebra and chemistry.

**LC 130****MEDICAL TERMINOLOGY I (3CR)**

In this self-instructional approach, students will use a handbook, computer software program, and tapes to build a medical vocabulary. Definition, spelling and pronunciation will be stressed. Students will study twelve body systems, the body as a whole, and an oncology unit. By arrangement.

**LC 150****JOB SEARCH SKILLS (1CR)**

Job-hunting techniques will be explored in this class. Class consists of lecture, assignments and role playing. In class, students will develop a resume, complete job applications and practice interviewing. 1 hr./wk.

**LC 162****PARAPHRASING STRATEGY (1CR)**

For the student who has not developed efficiency in paraphrasing written information as a means of improving comprehension and recall, this course, through the use of specialized methodology, offers an opportunity to develop these skills, formulate a strategy, practice under supervision, and apply the strategy in appropriate situations outside the class itself. Upon successful completion of this course, the student will have developed a specific learning strategy which can be brought into play as needed and applied to the designated task. 1 hr/wk.



**LC 164****WORD IDENTIFICATION STRATEGY (1CR)**

For the student who has not developed efficiency in the use of decoding skills to identify unfamiliar words, this course, through the use of specialized methodology, offers an opportunity to develop these skills, formulate a strategy, practice under supervision, and apply the strategy in appropriate situations outside the class itself. Upon successful completion of this course, the student will have developed a specific learning strategy which can be brought into play as needed and applied to the designated task. 1 hr. lecture/wk.

**LC 172****LECTURE NOTES STRATEGY (1CR)**

*Prerequisite: Division director approval*

For the student who has not developed efficiency in the use of skills required to take effective notes while listening to oral presentations, such as lectures, this course, through the use of specialized methodology, offers an opportunity to develop these skills, formulate a strategy in appropriate situations outside the class itself. Upon successful completion of this course, the student will have developed a specific learning strategy which can be brought into play as needed and applied to the designated task. 1 hr. lecture/wk.

**LC 178****MEMORY STRATEGY (1CR)**

*Prerequisite: Division director approval*

For the student who has not developed efficiency in the use of memory techniques that serve to improve retention and retrieval of information, through the use of specialized methodology, offers an opportunity to develop these skills, formulate a strategy, practice under supervision, and apply the strategy in appropriate situations outside the class itself. Upon successful completion of this course, the student will have developed a specific learning strategy which can be brought into play as needed and applied to the designated task. 1 hr. lecture/wk.

**LC 190****MULTIPASS STRATEGY (1CR)**

*Prerequisite: Division director approval*

For the student who has difficulty comprehending, remembering, and/or recalling information contained in textbook chapter assignments, this course, through the use of specialized methodology, offers an opportunity to develop these skills, formulate a strategy, practice under supervision, and apply the strategy in appropriate situations outside the class itself. Upon successful completion of this course, the student will have developed a specific learning strategy which can be brought into play as needed and applied to the designated task. 1 hr. lecture/wk.

**LC 196****STRATEGIC LEARNING SYSTEM (1CR)**

Students will have the opportunity to learn a series of strategies dealing with textbooks, lectures, studying and taking tests which should enable them to learn with more efficiency and effectiveness in courses in which the students are concurrently enrolled. Upon successful completion of this course, the student should be able to adapt these learning strategies to any learning situation. Class meets for one hour of lecture each week.

**LC 198****EXECUTIVE LEARNING STRATEGY (1CR)**

*Prerequisite: Any two Learning Strategies courses*

This course offers students an opportunity to explore their own cognitive learning styles and to generate appropriate strategies for improving learning efficiency and effectiveness. Emphasis will be placed on practical application of the self-generated strategies to courses in which the students are concurrently enrolled. One hour of lecture each week.

## ACCOUNTING

### **ACCT 111 SMALL BUSINESS ACCOUNTING (3CR)**

Introduction to the basic accounting procedures needed to maintain daily records for the small business and the use of such records in the decision-making process. Enables the student to maintain a set of financial records with the occasional help of an outside accountant. Does not prepare the student for Accounting II (ACCT 122). 3 hrs./wk.

### **ACCT 113 PAYROLL ACCOUNTING- CERTIFICATE REVIEW (3CR)**

*Prerequisite: ACCT 121 or division director approval*

A study of payroll tax laws and the records that are required by these laws. A review of both federal and state payroll tax legislation and methods of calculating earnings and payroll deductions will be included. Sales tax, property tax, and the forms that are necessary to complete such reports will also be discussed. Class meets for three hours of lecture each week.

### **ACCT 115 ACCOUNTING FOR NONPROFIT ORGANIZATIONS (3CR)**

*Prerequisite: ACCT 121*

A three hour survey course of not-for-profit accounting and its primary users: federal, state, and local governments; hospitals; and schools. Upon completion the student will be able to effectively deal with the primary funds and accounting groups, assist the budget process, and practice variances among the major nonprofit organizations according to their authoritative pronouncements. 3 hrs./wk. Fall.

### **ACCT 121 ACCOUNTING I (3CR)**

Introduction to accounting fundamentals. Upon successful completion of this course a student will 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*

Continuation of ACCT 121. Upon successful completion of this course a student will 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)**

A course that teaches the student Federal Income Tax rules and the procedures for reporting Federal Income Tax. Upon completion of this class, the student will be able to do short and long range tax planning and keep records which will provide appropriate information to be used in preparing Federal Income Tax. The student will also be able to prepare the standard individual Federal Income Tax return. 3 hrs./wk.

### **ACCT 221 COST ACCOUNTING (3CR)**

*Prerequisite: ACCT 122*

Upon course completion the student will be able to use accounting information to plan and control operations, to value inventory and determine income in a manufacturing environment and to evaluate subsequent results. 3 hrs./wk. Spring.

### **ACCT 222 MANAGERIAL ACCOUNTING (3CR)**

*Prerequisite: ACCT 122*

Upon completion of this course the student will be able to develop and use accounting information as an instrument of management control. Material includes financial statement analysis, cost application and budgeting reports to management. 3 hrs./wk.

### **ACCT 231 INTERMEDIATE ACCOUNTING I (3CR)**

*Prerequisite: ACCT 122*

A course that teaches the student the use of accounting theory in the preparation of financial reports. The student shall be able to solve problems that arise in the presentation of cash, receivables, inventories, tangible and intangible assets on the balance sheet and their related effect on the income statement. 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. Upon completion of this course, the student will be able to solve problems that arise in the presentation of the 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 271 (3CR)**

**ACCT 272 (2CR)**

**FIELD STUDY: HUMAN RELATIONS**

Upon completion of this course, the student will be able to build better working relations with fellow employees and supervisor, and to become more skilled in communications and decision making. Weekly class discussions focus on relating human relations content to work experience. 2-3 hrs./wk. Course will not be offered every semester.

**ACCT 274 (3CR)**

**FIELD STUDY: ACCOUNTING SEMINAR**

*Prerequisite: ACCT 122*

The student may be employed in an accounting or related position for a minimum of 15 hours a week. After completion of this course, the student will be able to maintain a complete set of books through an accounting cycle, both manually and automated. 2-3 hrs./wk. Fall.

**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. Includes participation in the field as well as classroom experience. 3hrs./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 explores 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 how to provide technically accurate, cost-effective security recommendations to the community. 3 hrs./wk.

**ADMJ 133**

**JUVENILE DELINQUENCY (3CR)**

This class provides 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, organization functions and jurisdiction of juvenile courts also 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 which 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 includes 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 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 casual analysis of the different physical, psychological, and sexual abuse acts which may occur within the primary family unit. 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 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 covers 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 division 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 division 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 division director*

This course provides 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*

Areas covered in this class include the use of the baton and service revolver and constitutional limitations on the use of force. Students are 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 the 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 division director 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 consists of selected readings in police science on topics such as police administration, criminal investigation, criminology, corrections, juvenile problems and evidence. By arrangement.

**AGRIBUSINESS**

**AGRI 120  
INTRODUCTION TO AGRIBUSINESS (2CR)**

This survey of agribusiness and its role in the economy includes a look at career opportunities in the field. Students also will compare several business forms. 2 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 will also be studied. 3 hrs./wk.

### ANTH 126

#### PHYSICAL ANTHROPOLOGY (3CR)

This study of physical anthropology includes 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.

## 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. lecture/wk.

### ART 123

#### ELEMENTARY ART METHODS (3CR)

This is an exploration of art activities for children from preschool through sixth grade. 3 hrs. lecture, 3 hrs. lab/wk.

### ART 124

#### DESIGN 2D (3CR)

This is an introductory study of the principles of visual perception, two-dimensional space organization and the visual element of line, shape, value and texture. 6 hrs./wk.

### ART 127

#### DESIGN 3D (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. Color as light and pigment will be explored. 6 hrs./wk.

### ART 130

#### DRAWING I (3CR)

An introductory course with emphasis on the development of fundamental drawing concepts and skills. 6 hrs./wk.

### ART 131

#### DRAWING II (3CR)

*Prerequisite: ART 130*

Advanced problems with emphasis on conceptual and mixed media drawing. 6 hrs./wk.

### ART 135

#### PAINTING (3CR)

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*

A course with stronger emphasis on the perceptual and conceptual problems in painting and with deeper commitment to the development of an individual direction. 6 hrs./wk.

### ART 142

#### CERAMICS I (3CR)

An introduction to ceramics which emphasizes combining technical insights with creative thought. Emphasis is on wheel-throwing with optional hand-building and slab construction. Students are 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 deals with more advanced methods and studio experiences in ceramic wheel, creative expression and glaze formulation. Emphasis 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. Assignments require work in sandstone, clay, wax, bronze and steel, and involve carving, modeling, and building-up. 6 hrs./wk.

**ART 146  
SCULPTURE II (3CR)**

*Prerequisite: ART 145*

This continuation of ART 145 focuses on advanced methods and techniques with emphasis on materials, forms and student selection of an individual direction. 6 hrs./wk.

**ART 148  
METAL AND SILVERSMITHING I (3CR)**

The metalsmithing techniques of casting and constructing 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 (3CR)**

In this introductory fiber course, projects 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 multi-harness looms. Notebook required. 6 hrs./wk.

**ART 155  
SMALL LOOM TECHNIQUES (3CR)**

This is a study of the art of textile construction methods. Topics include single and double element construction, fiber properties, spinning and dyeing. 6 hrs./wk.

**ART 166  
RAKU CERAMICS (3CR)**

Raku Ceramics deals 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 is on non-wheel manipulations of form. Students are encouraged to develop a personal philosophical basis for their creative process and product. 6 hrs./wk.

**ART 172  
WATERCOLOR PAINTING (3CR)**

Use of transparent medium to work from a variety of representational and non-objective situations to study color, value and composition. 6 hrs./wk.

**ART 222  
INTRODUCTION TO PRINTMAKING (3CR)**

*Prerequisite: ART 124 and either ART 130 or CA 130*

This is an introduction to a variety of traditional and contemporary printmaking processes including relief, intaglio, lithography and mixed media. 6 hrs./wk.

**ART 223  
SILKSCREEN (3CR)**

*Prerequisite: ART 124 and either ART 130 or CA 130*

An exploration of silkscreen techniques, this class covers paper stencil, hand-cut film and photo stencil processes. 6 hrs./wk.

**ART 231  
LIFE DRAWING I (3CR)**

*Prerequisite: ART 130*

A study of the fundamentals of figure drawing, working from live models, skeletons and other presentations. 6 hrs./wk.

**ART 232  
LIFE DRAWING II (3CR)**

*Prerequisite: ART 231*

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 with the course content being decided upon by the student 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 with course content decided upon by the student under the supervision of a faculty member. 6 hrs./wk.

**ART 244  
CERAMICS WORKSHOP I (3CR)**

*Prerequisite: ART 143 and permission of division director*

Students will have the opportunity to pursue advanced individual research under the direction of the instructor. Emphasis is on creative expression as well as development of technical skills. 6 hrs./wk.

**ART 281  
DIRECTED READING IN  
CONTEMPORARY AMERICAN ART (1CR)**

*Prerequisite: Approval of division director*

The technical and philosophical points of view of contemporary American artists are 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 traces 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  
AVTS: BASIC AUTO I (4CR)**

*Prerequisite: MATH 111 or appropriate score on math assessment test*

Upon successful completion of this course, the student will 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 will also be covered. 3 hrs. lecture, 7 hrs. lab/wk.

**AUTO 118  
AVTS: BASIC AUTO II (5CR)**

*Prerequisite: AUTO 116*

Upon successful completion of this course, the student will have developed an understanding of internal engine, 2+4 stroke cycle, theory and basic electricity. Students will also have the opportunity to develop a working knowledge of driveline service, an understanding of emission standards and basic diagnostic procedures. 4 hrs. lecture, 6 hrs. lab/wk.

**AUTO 121  
SMALL ENGINE SERVICE (3CR)**

Among areas examined in this class are four-stroke cycle and two-stroke cycle engines, lubricating, cooling, fuel and governor systems, troubleshooting engine problems, inspecting 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 satisfactory score on Math Assessment Exam*

Basic skills will be covered including selection and use of fasteners, service manuals, wiring diagrams and diagnosis charts. 2 hrs. lecture/demonstration, 3 hrs. lab/wk.

**AUTO 150  
AUTOMATIC  
TRANSMISSIONS & TRANSAXLES (4CR)**

*Corequisites: MATH 133, AUTO 125*

The student will be required to remove automatic transmissions and transaxles from the vehicle, disassemble the units completely, inspect all parts and components, rebuild and adjust the entire assembly to manufacturers' standards, and replace the transmission/transaxle in the vehicle for final road-testing and instructor approval. Students will also become familiar with diagnosing automatic transmission/transaxle problems. 3 hrs. lecture/demonstration, 3 hrs. lab/wk.

**AUTO 160  
AUTOMOTIVE ENGINES I (3CR)**

*Prerequisites: MATH 133, AUTO 125*

Focus will be on the 4-stroke cycle internal combustion engine, calculating compression ratio, piston displacement, horsepower and torque, and analyzing and correcting internal engine malfunctions. 2 hrs. lecture/demonstration, 3 hrs. lab/wk.

**AUTO 163  
AUTOMOTIVE ALIGNMENT,  
BRAKES AND DRIVETRAIN (3CR)**

*Prerequisites: MATH 133, AUTO 125*

The student will be required to perform front wheel alignment, tire balancing, inspect all steering and suspension components for wear, replace worn or broken suspension parts, and adjust steering components to manufacturers' specifications. The course will also require the student to inspect, replace and rebuild the clutch, the manual transmission, and transaxles assembly. Finally, the student will be required to inspect, adjust or rebuild the driveline assembly. 2 hrs. lecture/demonstration, 3 hrs. lab/wk. Spring

**AUTO 222  
AUTOMOTIVE STARTING,  
CHARGING AND IGNITION (3CR)**

*Prerequisite: AUTO 160*

*Corequisite: PHYS 125*

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)**

*Prerequisites: PHYS 125, AUTO 160*

Topics include the construction, operation and diagnosis of auto air conditioning, lighting systems and power accessories such as power windows, speed control, and instrument panel components. 3 hrs. lecture/demonstration, 3 hrs. lab/wk.

**AUTO 242  
SERVICE MANAGEMENT  
AND TECHNIQUES I (7CR)**

*Prerequisites and Corequisites: AUTO 125, 150, 160, 163, 222, 255, MATH 133, PHYS 125*

Introduction to ordering of parts, writing of repair orders, presentation of work orders to customers, questioning of customers in relation to automobile service problems, answering the telephone, and assignment of work load. Students will perform repair work on engines, transmissions, steering and 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*

The student will be required to become proficient in the areas of customer relations, parts ordering, supervising work load, filling out repair orders, and telephone usage. Students perform service work on air conditioning and emission systems, electrical problems, and drivelines. 4 hrs. lecture/demonstration, 9 hrs. lab/wk.

**AUTO 255**  
**AUTO CARBURETION,**  
**DIESEL AND FUEL INJECTION (4CR)**

*Prerequisite: AUTO 160*

Topics include the construction, operation and diagnosis of computer controlled carburetors, fuel pumps, injection pumps and injectors in diesel and gasoline engines. 3 hrs. lecture/demonstration, 3 hrs. lab/wk.

**AUTO 271**  
**AUTOMOTIVE TECHNOLOGY**  
**COOPERATIVE EDUCATION I (2-9CR)**

*Prerequisite: Division director approval*

This cooperative education course provides 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. 1 hr. lecture, 6-27 hrs. lab/wk.

**AUTO 272**  
**AUTOMOTIVE**  
**COOPERATIVE EDUCATION II (2-9CR)**

*Prerequisite: AUTO 271 and approval of division director*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry.

**AUTO 273**  
**AUTOMOTIVE**  
**COOPERATIVE EDUCATION III (2-9CR)**

*Prerequisite: AUTO 272 and approval of division director*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry.

**AVIATION**

**KAV 100**  
**INTRODUCTION TO**  
**AVIATION MAINTENANCE I (8.5 CR)**

General aviation practices will be introduced. Also addressed will be theory and practical application in the areas of basic electricity, drafting, fluid lines and fittings, materials and processes; ground operation and servicing, publications, and mechanic's privileges and limitations. 6.3 hrs. lecture, 1.2 hrs. lab/wk.

**KAV 101**  
**CARBURETION AND LUBRICATION (7CR)**

*Prerequisite: KAV 100*

This class presents the theory and practical application of engine lubricating systems, engine fuel systems, fuel metering systems and induction systems. 4.8 hrs. lecture, 4.8 hrs. lab/wk.

**KAV 102**  
**WOOD AND FABRIC (2CR)**

*Prerequisite: KAV 100*

The fundamentals of wood structures, aircraft covering and aircraft finishes will be introduced. 1.8 hrs. lecture, 2.9 hrs. lab/wk.

**KAV 103**  
**AIRCRAFT**  
**RECIPROCATING POWER PLANT (6CR)**

*Prerequisite: KAV 100*

Aircraft reciprocating power plants will be introduced along with the theory and practical application of reciprocating engines and engine exhaust systems. 3.6 hrs. lecture, 4.8 hrs. lab/wk.

**KAV 104**  
**ASSEMBLY AND RIGGING (6CR)**

*Prerequisite: KAV 100*

Students will focus on the theory and practical application of aircraft assembly and rigging, and airframe assembly inspection. 3.6 hrs. lecture, 4.8 hrs. lab/wk.

**KAV 105**  
**PROPELLERS (4CR)**

*Prerequisite: KAV 100*

The theory and practical application of a wide range of propeller types will be introduced as well as engine cooling systems. 2.4 hrs. lecture, 3.6 hrs. lab/wk.

**KAV 106**  
**HYDRAULIC AND**  
**PNEUMATIC SYSTEMS (7CR)**

*Prerequisite: KAV 100*

Areas covered include inspection, checking, servicing and troubleshooting hydraulic and pneumatic power systems and air conditioning, pressurization and oxygen systems. 4.8 hrs. lecture, 4.8 hrs. lab/wk.

**KAV 107**  
**JET PROPULSION POWER PLANT (5CR)**

*Prerequisite: KAV 100*

Principles of operation of gas turbine engines and their application to present day aircraft. Theory and practical application in inspection, servicing and troubleshooting. 3.6 hrs. lecture, 2.4 hrs. lab/wk.



**KAV 108  
AIRCRAFT ELECTRICAL  
AND RELATED SYSTEMS (5.5CR)**

*Prerequisite: KAV 100*

Theory and practical application in aircraft electrical, position and warning, and ice and rain control systems. 3.6 hrs. lecture, 3.6 hrs. lab/wk.

**KAV 109  
AIRCRAFT IGNITION  
AND STARTING SYSTEMS (4CR)**

*Prerequisite: KAV 100*

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. 2.4 hrs. lecture, 3 hrs. lab/wk.

**KAV 111  
INTRODUCTION TO  
AVIATION MAINTENANCE II (10.5CR)**

General aviation practices. Theory and practical application in the area of basic electricity. 6 hrs. lecture, 9.2 hrs. lab/wk.

**KAV 112  
TECHNICAL MATH (4CR)**

Algebraic functions, factoring, linear equations, quadratic equations, systems of equations, exponents and radicals. Trigonometric functions, solutions of right triangles, functions of the general angle, graphs of trigonometric functions. Laboratory emphasis on elementary physics related to aircraft.

**KAV 115  
ENGLISH (3CR)**

English 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 AND WELDING (6CR)**

*Prerequisite: KAV 100*

Gas welding, sheet metal fabrication, and methods and application of aircraft structural repair. 2.4 hrs. lecture, 7.8 hrs. lab/wk.

**KAV 201  
POWER PLANT TESTING (5CR)**

*Prerequisite: KAV 100*

This course will address reciprocating engine and engine system theory and inspection, theory and practical application in removal, installation, run-up and troubleshooting of aircraft reciprocating engines. 2.4 hrs. lecture, 4.8 hrs. lab/wk.

**KAV 202  
AIRCRAFT FUEL SYSTEMS AND  
FIRE PROTECTION, NAVIGATION  
AND INSTRUMENT SYSTEMS (2.5CR)**

*Prerequisite: KAV 100*

Aircraft fuel systems and fire protection systems will be addressed. Topics include inspection, checking, servicing and troubleshooting. 1.7 hrs. lecture, 1.4 hrs. lab/wk.

**KAV 203  
ELECTRICITY,  
GENERATOR-ALTERNATOR (5.5CR)**

*Prerequisite: KAV 100*

Theory of aircraft engine electrical systems, practical applications of generating power, and electrical control systems. 7.2 hrs. lecture, 7.2 hrs. lab/wk.

**KAV 204  
AIRCRAFT COMMUNICATIONS,  
NAVIGATION AND  
INSTRUMENT SYSTEMS (5CR)**

*Prerequisite: KAV 100*

This course focuses on the theory and practical application of auto pilot and approach systems and inspection and repair of antenna and equipment installations. 3.6 hrs. lecture, 3.3 hrs. lab/wk.

**KAV 205  
ENGINE INSTRUMENTS (5.5CR)**

*Prerequisite: KAV 100*

This course provides a review of engine systems through the analysis of related instruments and control systems. Engine fire protection will also be covered. 3.6 hrs. lecture, 3.6 hrs. lab/wk.

**KAV 206  
AIRFRAME THEORY SURVEY (5.5CR)**

*Prerequisite: KAV 100*

In this review of airframe theory courses, emphasis is on areas of difficulty. 3.6 hrs. lecture, 3.6 hrs. lab/wk.

**KAV 209  
SEMINAR IN  
POWER PLANT MAINTENANCE (4.5CR)**

*Prerequisites: KAV 100, 101, 103, 105, 107, 109, 201, 205*

This is a review of theory and laboratory experiences in previous power plant courses. 3 hrs. lecture, 3 hrs. lab/wk.

**KAV 210  
SEMINAR IN  
AIRFRAME MAINTENANCE (4.5CR)**

*Prerequisites: KAV 100, 102, 104, 106, 108, 200, 204, 206*

This is a review of theory and laboratory experiences presented in previous airframe courses. 3 hrs. lecture, 3 hrs. lab/wk.

**KAV 240  
SHOP AND  
PERSONNEL MANAGEMENT (9CR)**

*Prerequisite: A & P license and approval of instructor*

Management and leadership techniques in aviation maintenance will be addressed.

**KAV 242  
POWER PLANT PRACTICAL REVIEW (1CR)**

*Prerequisite: FAA approval for taking the power plant exam*

A review designed to prepare the student for the FAA oral and practical examination for the Power Plant Certificate. Theory and practical applications in the common subjects and shop projects with emphasis on individual areas of need will be covered. 2.5 hrs. lab/wk. for 8 weeks.

**KAV 243  
AIRFRAME PRACTICAL REVIEW (1CR)**

*Prerequisite: FAA approval for taking the airframe exam*

A review designed to prepare the student for the FAA oral and practical examination for the Airframe Certificate. Theory and practical applications in the common subjects and shop projects with emphasis on individual areas of need will be covered. 2.5 hrs. lab/wk. for 8 weeks.

## **BANKING AND FINANCE**

**AIB 101  
PRINCIPLES OF BANKING (2CR)**

A comprehensive introduction to the diversified services and operations of the banking industry. Topics include the history and evolution of banking, the documents and language of banking, loans and investments, and bank regulation and examination. Bookkeeping, deposit and check processing and various specialized services will also be covered. 2 hrs. lecture/wk.

**AIB 104  
TRUST OPERATIONS (3CR)**

Students will have the opportunity to learn basic trust terminology and to explore the concepts and ideas that comprise the various trust functions and translate them into workable procedures. Upon successful completion of this course, the student should be able to adapt this frame of reference to individual trust function situations. 3 hrs. lecture/wk.

**AIB 124  
INTRODUCTION TO  
COMMERCIAL LENDING (2CR)**

*Prerequisites: ACCT 121 or ACCT 122.*

This comprehensive treatment of commercial lending is designed for entry-level commercial loan officers and any individuals who want to know more about the role of commercial lending in the banking industry and in collective economy. Characteristics of the business loan customer and the fundamentals of commercial loan products, pricing decision making, support and documentation will also be discussed. Additional topics will include commercial loan portfolio management, legal and regulatory requirements and overall management of the commercial lending function. 2 hrs. lecture/wk.

## **BIOLOGY**

**BIOL 120  
LIFE SCIENCE (4CR)**

Audiovisual materials, laboratory experiments and lecture sessions will be used in this class to study the principles of living organisms including plants and animals. This course not open to students who have taken BIOL 122 and BIOL 123. 6 hrs. class-lab/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 not open to students who have taken BIOL 120. 3 hrs./wk.

**BIOL 123**  
**PRINCIPLES OF BIOLOGY LAB (1CR)**

*Prerequisite or Corequisite: BIOL 122 or equivalent*

This introductory lab focuses on the structures and functions of plants and animals. 3 hrs./wk. once a wk.

**BIOL 125**  
**GENERAL BOTANY (5CR)**

Phyla of the plant kingdom will be presented with emphasis on 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*

In this lab, students will sample the local environment for air, water and noise pollution. Field trips will include a visit to a local industry to observe pollution control and a visit 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 region. 6 hrs. lecture-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 146**  
**GENERAL/HEAD  
AND NECK ANATOMY (4CR)**

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 120 or BIOL 122 and BIOL 123*

Phyla of protista, plant and animal kingdoms will be presented with emphasis on life cycles, anatomy, physiology and ecology of the major groups. 4 hrs. lecture, 3 hrs. lab/wk.

**BIOL 205**  
**GENERAL GENETICS (3CR)**

*Prerequisite: BIOL 120 or 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 covers common disorders of the body from the cellular level to the systemic level. Topics include causes, symptoms, diagnostic tests and treatments of disease. 4 hrs./wk.

**BIOL 225**  
**HUMAN PHYSIOLOGY (4CR)**

*Prerequisites: CHEM 122, 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. 6 hrs. lecture-lab/wk.



**BIOL 230  
MICROBIOLOGY (3CR)**

*Prerequisite: CHEM 122 or one year of high school chemistry*

Microorganisms – their cell structure, physiology, antimicrobial agents, immunology and host-parasite relationships – will be studied. 3 hrs./wk.

**BIOL 231  
MICROBIOLOGY LAB (2CR)**

*Prerequisite or Corequisite: BIOL 230*

Students will concentrate on growing and identifying microorganisms. They will perform experiments to test the organisms' response to various environmental conditions. 4 hrs./wk.

**BIOL 235  
GENERAL NUTRITION (3CR)**

*Corequisite: BIOL 225 or 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.

**BIOL 295  
ALASKA: THE LAST FRONTIER (3CR)**

A study of Alaska, its history, culture and natural environment. This course will provide students with an in-depth natural history experience in Denali National Park and the Kenai Peninsula to see glaciers and observe the fishing industry. Fifteen hours of classroom study followed by 16 days of travel.

**BIOL 298  
SPECIAL TOPICS IN BIOLOGY:  
SOUTHWESTERN FIELD COURSE (4CR)**

Students will travel through varied environments of the southwestern United States to observe and study the field biology of each area. Course includes pre-trip 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 pre-departure seminars as well as two weeks spent in Mexico. The class is an introduction to natural history, flora and fauna of selected geographical locations of the Yucatan Peninsula. Course included pre-trip lectures in addition to the two-week trip.

**BIOMEDICAL EQUIPMENT  
TECHNOLOGY**

**BMT 210  
BIOMEDICAL  
EQUIPMENT TECHNOLOGY I (4CR)**

*Prerequisite: BIOL 144*

*Corequisites: ELEC 225, ELEC 230*

Topics include special electrical circuits used in biomedical equipment, use of electronics in the health care field, microshock and electrical safety testing. 3 hrs. lecture/demonstration, 3 hrs. lab/wk. Fall.

**BMT 211  
BIOMEDICAL  
EQUIPMENT TECHNOLOGY II (3CR)**

*Prerequisite: BMT 210*

Students will have access to actual biomedical equipment as they study specific repair and maintenance problems. 2 hrs. lecture/demonstration, 3 hrs. lab/wk. Spring.

**BMT 271  
BIOMEDICAL INTERNSHIP (3CR)**

*Corequisite: BMT 211*

Each week students will work in an assigned hospital or in a related position. The institution's biomedical department in cooperation with JCCC's biomedical program coordinator will supervise and evaluate the students. 1 hr. lecture, 6 hrs. intern./wk.

## **BUSINESS ADMINISTRATION**

### **BUS 120 MANAGEMENT ATTITUDES AND MOTIVATION (3CR)**

Emphasis is on self-improvement techniques, conflict resolution and respect for individual differences. Students will take part in discussions, group projects and role-playing. Class meets for 48 hrs.

### **BUS 121 INTRODUCTION TO BUSINESS (3CR)**

This introductory course covers among other topics business organization and management; multinational character of business; and the responsibility of business, government and consumers for improving the environment. 3 hrs./wk.

### **BUS 123 PERSONAL FINANCE (3CR)**

This course provides the individual with the necessary knowledge and ability to apply content in understanding his or her role as a consumer in the economy. The student will learn basic financial planning to maximize wealth, understand types of consumer credit, home finance and principles of insurance and retirement planning. 3 hrs./wk.

### **BUS 124 GENERAL INSURANCE (3CR)**

In this course, students will review all lines of insurance. The course has been coordinated with the Insurance Institute of America. 3 hrs./wk.

### **BUS 125 SAVINGS AND INVESTMENTS (3CR)**

This course is planned to give the student an understanding of basic financial planning concepts and tax planning procedures. The student completing this course will be able to evaluate and determine which types of investments are desirable in setting up a personal financial plan based on personal objectives. 3 hrs./wk.

### **BUS 126 TRANSPORTATION RATES I (3CR)**

Motor carrier tariffs and rates will be looked at in detail in this introduction to motor carrier transportation. 3 hrs./wk.

### **BUS 127 TRANSPORTATION RATES II (3CR)**

The student will be introduced to Middlewest Freight Bureau Tariff 125 and MWB 226 (commodities). 3 hrs./wk.

### **BUS 128 TRANSPORTATION RATES III (3CR)**

The course will focus on the Middlewest Motor Freight Bureau Tariff 129 (rule for discounts and allowances), MWB 600 local distribution, Rocky Mountain Motor 303 (class and commodity rates). 3 hrs./wk.

### **BUS 130 INTRODUCTION TO INTERNATIONAL BUSINESS (3CR)**

Accounting, finance, management and marketing in the international scene will be discussed. 3 hrs./wk.

### **BUS 140 PRINCIPLES OF SUPERVISION (3CR)**

This class will cover supervision of employees including the planning, organizing and directing of non-management personnel. 3 hrs./wk.

### **BUS 141 PRINCIPLES OF MANAGEMENT (3CR)**

Emphasis will be on the behavioral aspects of modern management, MBO-MBR and planning, organizing, directing and control. 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 and to develop a philosophy unique to small business. The student should also be able to interpret and develop business plans, marketing options, managerial controls, and a financial analysis which would include a source list of capital. The student will also receive detailed information concerning the initiation of a new venture and the management of its ongoing operation in terms of the opportunities and the limitations of the entrepreneur. 3 hrs./wk.

### **BUS 150 BUSINESS COMMUNICATIONS (3CR)**

*Prerequisite: ENGL 121*

Emphasis will be on writing clear and concise business letters, memorandums and reports. 3 hrs./wk.

### **BUS 221 PRINCIPLES OF INSURANCE (3CR)**

*Prerequisites: BUS 121 and BUS 123*

This course will explain insurance terminology and review the major categories such as life, health, property and liability. The course has been coordinated with the Insurance Institute of America. 3 hrs./wk.

**BUS 230**  
**MARKETING (3CR)**

In this study of marketing, emphasis is on the problems and policies of manufacturers, wholesalers and retailers in the distribution of goods and services. 3 hrs./wk.

**BUS 243**  
**PERSONNEL MANAGEMENT (3CR)**

This is a study of the personnel function as an integral part of management. Topics include personnel planning, recruitment, selection, training and development, compensation, benefits, personnel evaluation and equal opportunity. 3 hrs./wk.

**BUS 261**  
**BUSINESS LAW I (3CR)**

This is an introduction to the American legal system, business tort, crimes, contracts and uniform commercial code as applied to sales and negotiable instruments. A case study method will be used. 3 hrs./wk.

**BUS 263**  
**BUSINESS LAW II (3CR)**

*Prerequisite: BUS 261*

Topics include agency, partnership, property, insurance, corporations and secured transactions. A case study method will be used. 3 hrs./wk.

**BUS 271**  
**MANAGEMENT SEMINAR I (3CR)**

*Prerequisite: BUS 141*

In this course on advanced management, emphasis is on management decision making using both computerized and non-computerized management simulations. 3 hrs./wk. Spring.

**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.

## CHEMISTRY

**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 124**  
**GENERAL CHEMISTRY I LECTURE (4CR)**

*Corequisite: MATH 160 and CHEM 125*

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 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 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 CHEM II LECTURE. 3 hrs./wk.

**CHEM 140**  
**PRINCIPLES OF ORGANIC CHEMISTRY (5CR)**

*Prerequisite: CHEM 122 or CHEM 131*

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 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. 9 hrs./wk. Fall.

**CHEM 221**  
**ORGANIC CHEMISTRY II (5CR)**

*Prerequisite: CHEM 220*

In this continuation of ORGANIC CHEMISTRY I, organic qualitative analysis will be introduced. 9 hrs./wk. Spring.

**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 spectro-photometry as they apply to quantitative chemical analysis. The lab will introduce modern quantitative experimental techniques. 3 hrs. lecture, 6 hrs. lab/wk.

## COMMERCIAL ART

**CA 130**  
**REPRESENTATIONAL DRAWING I (3CR)**

In this introduction to representational drawing, emphasis is on techniques of visual analysis and the accurate rendering of structure in terms of both line and value. 6 hrs./wk.

**CA 131**  
**REPRESENTATIONAL DRAWING II (3CR)**

*Prerequisite: CA 130*

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 in conveying emotional content will be explored. 6 hrs./wk.

**CA 132**  
**TYPOGRAPHY (3CR)**

This is a study of the principles of contemporary typographic design focusing on such factors as size, form, contrast, color, spacing and design of the printed word and the printed page. 6 hrs./wk.

**CA 134**  
**LAYOUT I (3CR)**

*Prerequisite: CA 132*

A study of basic layout elements and skills emphasizing advertising and editorial grid systems, comp lettering and a variety of indication techniques. 6 hrs./wk.

**CA 141**  
**GRAPHIC ART PROCESSES I (1CR)**

*Prerequisites: ART 124 and ART 129*

Students will explore a wide variety of non-photographic art products, tools, materials, techniques and processes and apply them in a series of simple graphic images. 2 hrs./wk.

**CA 142**  
**GRAPHIC ART PROCESSES II (1CR)**

*Prerequisite: PHOT 121*

This graphic art process module will cover basic copy work in slide form. It will include the use of color and black and white reproduction materials with two-dimensional copy-stand, two-dimensional wall work and three-dimensional object set ups. 2 hrs./wk.

**CA 143**  
**GRAPHIC ART PROCESSES III (1CR)**

*Prerequisite: PHOT 121*

This graphic art process module will cover basic process camera work using photo mechanical transfer materials, use of stabilization processing and use of photo display typesetting. 2 hrs./wk.

**CA 144**  
**GRAPHIC ART PROCESSES IV (1CR)**

*Prerequisite: CA 143*

This graphic art process module will cover extensive use of the process camera using orthochromatic films for line work, special effect screening and halftone screening. The course will also cover positive ortho film techniques, posterization and tone line conversion. 2 hrs./wk.

**CA 145**  
**GRAPHIC ART PROCESSES V (1CR)**

*Corequisite: CA 144*

This graphic art process module will cover a variety of color proofing and comping techniques including color key, chromatec and screen printing. 2 hrs./wk.

**CA 230**  
**ILLUSTRATION TECHNIQUES (3CR)**

*Prerequisite: CA 131 and CA 141*

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 will be emphasized. 6 hrs./wk.





**CA 231  
LAYOUT II (3CR)**

*Prerequisite: CA 134*

A continuation of Layout I with emphasis on the effective composition of verbal and visual messages designed for publication. 6 hrs./wk.

**CA 235  
PRODUCTION ART I (3CR)**

*Prerequisite: CA 134 and CA 143*

This is a study of the fundamentals of preparing art for reproduction. Emphasis is on practical exercises and the acquisition of skills relating to the production methods and techniques necessary for the preparation of camera-ready art. 6 hrs./wk.

**CA 236  
PRODUCTION ART II (3CR)**

*Prerequisites: CA 235 and CA 231*

A continuation of Production Art I with additional practical experience in the production of camera-ready art. 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 as used in both fine and commercial art. 6 hrs./wk.

**CA 244  
VISUAL COMMUNICATIONS (3CR)**

*Prerequisites: Completion of all third semester program courses*

An exploration of 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. 6 hrs./wk.

**CA 245  
GRAPHIC DESIGN (3CR)**

*Prerequisite: Completion of all third semester program courses*

This course will focus 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)**

*Prerequisite: Permission of the division director based upon recommendation of the faculty following a review of the student's work and performance in the program.*

This course will provide an increased understanding of the kind and quality of work done in a professional environment. Students will work an average of 15 hours per week in an approved professional studio or agency under institutional staff supervision. Students will prepare a professional portfolio and resume. 3 hrs./wk.

## **COMPUTERS: PERSONAL COMPUTER APPLICATIONS**

**CPCA 105  
INTRODUCTION TO  
PERSONAL COMPUTING (1CR)**

Demonstration and hands-on experience in the basic operation of the personal computer system. Word processing, electronic spreadsheets, and data base management are introduced. 6 hrs. lecture/demonstration/wk. for three weeks.

**CPCA 108  
WORD PROCESSING  
ON MICROCOMPUTERS I (1CR)**

Concepts and use of word processing software. Functions used: editing, printing, merging, pagination, spelling check, and centering. 6 hrs. lecture/demonstration/wk. for three weeks.

**CPCA 110  
SPREADSHEETS  
ON MICROCOMPUTERS I (1CR)**

*Prerequisite: CPCA 105 or equivalent*

Concepts and use of spreadsheet software. Students will use a spreadsheet to solve a typical business application. 6 hrs. lecture/demonstration/wk. for three weeks.

**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 topics in both written and spoken formats. Other basic competencies will include such skills as 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*

Concepts and use of database software. Functions used: building, loading, entering, changing, deleting, sorting, and reporting. Students will use a database to solve typical business applications. 6 hrs. lecture/demonstration/wk. for three weeks.

**CPCA 120**  
**MICROCOMPUTER**  
**BASIC PROGRAMMING (3CR)**

This beginning course in BASIC covers elementary programming topics up through subscripted variables, two-dimensional arrays, and the use of a printer. Some sections will be taught on the IBM PC, other sections will be on the APPLE Computer. 2 hrs. lab/wk.

**CPCA 125**  
**WORD PROCESSING**  
**ON MICROCOMPUTERS II (1CR)**

*Prerequisite: CPCA 108*

Upon completion of this course, students will be able to use the advanced concepts and application 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. 6 hrs./wk. for 3 wks.

**CPCA 128**  
**INTEGRATED SOFTWARE – IBM**

*Prerequisite: CPCA 105*

The student will attain a proficiency in the use of the word processor, the spreadsheet, and the database modules of an integrated software package. In addition, they will be able to utilize the integration features of each module with the rest of the modules of that software package. 3 hrs./wk. Lab by arrangement.

**CPCA 130**  
**MICROCOMPUTER BASIC**  
**PROGRAMMING WITH DATA FILES (4CR)**

This beginning course in BASIC covers all the topics included in CPCA 120 plus a study of sequential and random access files. 3 hrs. lecture, 2 hrs. lab/wk.

**CPCA 135**  
**PC DOS (1CR)**

*Prerequisite: CPCA 105*

At the completion of this course, the student will be expected to know the major commands of the IBM PC Disk Operating System and the means of formatting and backing up both floppy and hard disks. Directories and subdirectories, various DOS messages, and the creation of batch files to customize disk startup procedure and to automate other repetitive sequences of commands will also be topics of study. 6 hrs. lecture/demonstration/wk. for three weeks.

**CPCA 200**  
**ADVANCED MICROCOMPUTER**  
**BASIC PROGRAMMING (3CR)**

*Prerequisite: CPCA 120 or CPCA 130, or equivalent*

Data files and menu programming will be emphasized in the first part of the course. Then several project programs will be assigned on an individual basis. 2 hrs. lecture, 2 hrs. lab/wk.

## COMPUTER SCIENCE

**CS 180**  
**INTRODUCTION TO**  
**ARTIFICIAL INTELLIGENCE (3CR)**

*Prerequisite: A computer programming course or the equivalent*

Upon successful completion of this course, the student should 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 to describe knowledge representation and problem resolution techniques used in artificial intelligence. 3 hrs. lecture/wk.

**CS 200**  
**PASCAL (4CR)**

*Prerequisite: DP 134 or equivalent*

This course will cover the use of PASCAL programming language in solving typical problems. Emphasis will be on the function and use of statements in writing structured code. 3 hrs./wk. Lab by arrangement.

**CS 210****DISCRETE STRUCTURES I (3CR)**

*Prerequisite: MATH 171*

Introduction to the topics of discrete structures. Topics include switching circuits, boolean algebra, logic, set theory, and mathematical induction. 3 hrs.lecture/wk.

**CS 211****DISCRETE STRUCTURES II (3CR)**

*Prerequisite: CS 210*

Continued study of topics in discrete structures. Topics include relations, functions, partitions, orderings, graphs, and techniques of proving theorems. 3 hrs. lecture/wk.

**CS 250****BASIC PROGRAMMING STRUCTURES (4CR)**

*Prerequisites: CS 200*

*Corequisite: CS 210 for students transferring to most four-year Computer Science programs*

Advanced programming topics using the Pascal language. Files, recursion, data structures, and large program organization. Students will write programs using the concepts covered in lecture. 3 hrs. lecture/wk. Lab by arrangement.

## COMPUTER SYSTEMS TECHNOLOGY

**CST 260****COMPUTER SYSTEMS (5CR)**

*Prerequisites: DP 134, ELEC 230, and ELEC 245*

In this course complete systems including peripherals are studied. The course also includes a study of disk drives, tape drives, monitors, terminals, printers, interface standards, and interface devices. System maintenance techniques are studied and practiced on a microcomputer system. 3 hrs. lecture, 6 hrs. lab/wk.

**CST 271****COMPUTER SYSTEMS COOPERATIVE EDUCATION I (2-9CR)**

*Prerequisite: 9 credit hours in program major courses at JCCC and approval of division director*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and 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. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

**CST 272****COMPUTER SYSTEMS COOPERATIVE EDUCATION II (2-9CR)**

*Prerequisite: CST 271*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

**CST 273****COMPUTER SYSTEMS COOPERATIVE EDUCATION III (2-9CR)**

*Prerequisite: CST 272*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

## CORRECTIONAL SERVICES

**KADJ 185****PRINCIPLES OF CORRECTIONS (3CR)**

*Prerequisite: Approval of division director*

Topics include the development and philosophy of corrections; ancient codes; medieval justice; development of parole, probation and community treatment. 3 hrs./wk.

**KADJ 186****CORRECTIONAL PSYCHOLOGY (3CR)**

*Prerequisite: Approval of division 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)**

*Prerequisite: KADJ 185 and approval of division director.*

The role of the youth case worker will be explored in this course along with basic theory of treatment, organizational structure and problem-solving skills. 3 hrs./wk.

**KADJ 191  
CORRECTIONS IN THE COMMUNITY (3CR)**

*Prerequisite: KADJ 185 and approval of division director*

This course will cover community correctional programs, diversion, half-way programs, pre-release centers, group homes, probation and parole. The community support for these programs also will be discussed. 3 hrs./wk.

**KADJ 192  
CORRECTIONAL ADMINISTRATION (3CR)**

*Prerequisite: KADJ 185 and approval of division director*

This survey of management patterns in correctional agencies covers 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. Theory and application of techniques dealing with problem behavior. Listening and communication skill development. 3 hrs./wk.

**KADJ 194  
HUMAN SERVICES PRACTICUM I (3CR)**

*Prerequisite: KADJ 185 and approval of division director*

Initial field experience in social services, corrections, juvenile treatment, mental health or other community services. Requires minimum of 10 hours per week, or 160 hours during semester in placement.

**KADJ 261  
HUMAN SERVICES PRACTICUM II (3CR)**

*Prerequisite: KADJ 194 and approval of division director*

Continued field placement or second placement in social services, corrections, juvenile treatment, mental health or other community services. Minimum of 160 hours during semester in placement plus evaluation of agency effectiveness.

## DATA PROCESSING

**DP 110  
INTRODUCTION TO COMPUTERS (2CR)**

This television course features a survey of electronic data processing, 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 non-technical course, students study computer concepts, terminology and applications. Students will use a microcomputer, word processing and data base packages and write elementary BASIC programs. 3 hrs./wk.

**DP 126  
PROGRAMMING LOGIC (2CR)**

The fundamental concepts of problem solving and developing programming logic will be introduced. The class will present the fundamental tools and techniques of programming. 2 hrs. lecture/wk.

**DP 132  
BASIC FOR  
ENGINEERING TECHNOLOGY (3CR)**

*Corequisite: MATH 133*

Students will become acquainted with computer capabilities. The class presents BASIC language using the computer to solve academic and non-academic problems in science and engineering. 2 hrs. lecture/wk. Lab by arrangement.

**DP 134  
PROGRAMMING FUNDAMENTALS (4CR)**

This technical course focuses on the skills students need to enroll in any programming language course. Topics include computer concepts and applications, flowcharting, number systems and writing and running BASIC programs on a microcomputer. 3 hrs./wk. Lab by arrangement.

**DP 137  
ADVANCED BASIC (4CR)**

*Prerequisite: DP 132, DP 134 or CPCA 120*

Students will review introductory techniques and explore menus, multi-dimensional arrays, subroutines, advanced branching techniques, graphics and file accessing techniques including sequential, random and indexed access methods. Emphasis will be on systematic approaches to solving problems using BASIC. 3 hrs./wk. Lab by arrangement.

**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. 3 hrs./wk. for three weeks.

**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 solving typical problems. Emphasis will be on assembler statements, hardware architecture and system services and the use of microcomputers in assembling, linking and executing programs. 3 hrs. lecture/wk. Lab by arrangement.

**DP 148**  
**COBOL I (4CR)**

*Prerequisites: DP 134 and DP 140. DP 140 may also be taken as a corequisite*

Students will study the use of COBOL programming language. Emphasis will be on function and use of statements in the four divisions of ANSI COBOL. 3 hrs./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 this class be taken after COBOL I*

Students will use Assembler language to solve typical problems on an IBM mainframe. 3 hrs./wk. Lab by arrangement.

**DP 156**  
**RPG II BEGINNING (4CR)**

*Prerequisite: DP 134*

Students will look at the use of various approaches to RPG II problem solving. Topics include defining, coding, testing, debugging and documenting RPG II programs, control levels and subroutines using an IBM System/36 PC. 3 hrs./wk. Lab by arrangement.

**DP 158**  
**FORTRAN (4CR)**

*Prerequisites: MATH 116 and DP 140. DP 140 may be taken as a corequisite*

The course focuses on the use of FORTRAN programming language to solve typical problems. Emphasis is on the vocabulary and grammar of ANSI FORTRAN. 3 hrs./wk. Lab by arrangement.

**DP 162**  
**dBASE III PROGRAMMING (4CR)**

*Prerequisite: DP 134 or equivalent*

Students will have the opportunity to learn how to use dBASE III to create, maintain, and manipulate databases. The use of command level dBASE III programming language to custom design business reports and/or selectively retrieve information using single or multiple databases will also be studied. 3 hrs. lecture/wk. Lab by arrangement.

**DP 168**  
**COBOL ON MICROS (2CR)**

*Prerequisite: DP 148*

Students will review the COBOL language elements and structure as used by the major microcomputer COBOL compilers. Interactive COBOL programming techniques for micros, screen handling with the ACCEPT, DISPLAY, and SCREEN SECTIONS of COBOL, and uploading and downloading COBOL programs on micros will also be topics of study, as will the use of the DECLARATIVE SECTION. 1 hr. lecture/1 hr. lab/wk.

**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./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./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 RS232 through lecture, demonstration, and hands-on experience. Computers used will be IBM or IBM compatible MG-DOS systems. 3 hrs./wk.

**DP 235  
PROGRAMMING IN C (4CR)**

*Prerequisite: CS 200*

Advanced programming topics using the C language. Emphasis on input-output facilities, data structures, bit-oriented instructions, and construction of general purpose functions. Students will write programs within the UNIX operating environment using concepts covered in lecture. 3 hrs. lecture/wk.  
Lab by arrangement.

**DP 242  
INTRODUCTION TO  
SYSTEM DESIGN AND ANALYSIS (3CR)**

*Prerequisite: One of the following: DP 148, DP 150, DP 156, or DP 158*

Students will study basic philosophy and techniques in developing and using business information systems. Emphasis will be on the human element and the people involvement necessary in systems design and implementation. The course addresses the use of specific technical approaches available in relation to information processing. 3 hrs./wk.

**DP 245  
MICROCOMPUTER  
OPERATING SYSTEMS (3CR)**

*Prerequisite: DP 145 or DP 150 or ELEC 225*

Covers basic concepts and principles of microcomputer operating systems. Several case studies will be included. 3 hrs. lecture/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 sort and report writer features. 3 hrs./wk.  
Lab by arrangement.

**DP 250  
ASSEMBLER LANGUAGE II (4CR)**

*Prerequisite: DP 150*

Advanced features of Assembler Language for IBM 370 will be covered. Topics include macros, subprograms, table handling, file access and complete set of ALC instructions. 3 hrs./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, temporary storage and transient data. Debugging on the transaction level will be discussed. 3 hrs./wk. Lab by arrangement.

**DP 256  
RPG II ADVANCED (4CR)**

*Prerequisite: DP 156*

The advanced features of the RPG II language will be explored. Topics include disk file techniques, disk utilities, tables and array methodology and sequential, indexed and direct access methods. A system 36 PC is used in compiling and executing programs. 3 hrs./wk.  
Lab by arrangement.

**DP 258  
OPERATING SYSTEMS (3CR)**

*Prerequisite: DP 150 or DP 148*

The basic concepts and principles of a digital computer operating system are explained. Also explored through a study of a typical digital computer operating system are the relationships between hardware and software. 3 hrs./wk.

**DP 260  
DATA BASE MANAGEMENT (4CR)**

*Prerequisites: DP 248 or DP 250. DP 242 offers useful background and is recommended prior to taking DP 260*

Students will focus on the academic and commercial applications of three data base models. Discussion will cover underlying theories and commercially-available examples of each model and its query/data manipulation language. Students will use SQL on the IBM 4381 mainframe. 3 hrs./wk. Lab by arrangement.

**DP 263  
APPLICATION PROGRAMMING:  
APPLICATIONS (3CR)**

*Prerequisite: One semester of a computer language beyond an introduction to BASIC*

This class consists of computer operations or directly related work experience. A minimum of 15 hours of supervised on-the-job training a week or recognition and formalization of experience for those already employed is required. Hours by arrangement. Fall.

**DP 264**

**APPLICATION PROGRAMMING:  
DATA PROCESSING TOPICS (3CR)**

*Prerequisite: One semester of a computer language beyond an introduction to BASIC*

This class consists of programming or directly related work experience. A minimum of 15 hours supervised on-the-job training a week or recognition and formalization of experience for those already employed is required. Hours by arrangement. Spring.

**DENTAL HYGIENE**

**DHYG 121**

**CLINICAL DENTAL HYGIENE I (6CR)**

*Prerequisites: Admission to Dental Hygiene Program, and CHEM 122, ENGL 121, SOC 122. Corequisites: BIOL 146, DHYG 125, PSYC 130*

This course includes 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 and the wellness concept. 2 hrs. lecture, 11 hrs. lab/wk.

**DHYG 125**

**DEVELOPMENTAL DENTISTRY (3CR)**

*Corequisites: BIOL 146, DHYG 121, PSYC 130*

This course includes a study of embryology; oral histology; developmental disturbances of the face, oral cavity and related structures; and the study of dental morphology and occlusion. 3 hrs. lecture, 1 hr. 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*

Focus will be on the clinical application of dental hygiene techniques, instrumentation skills, oral health products, patient motivation and education techniques, and ultrasonic scalers. 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, DHYG 148*

This class concentrates on the theory and clinical practice of exposing, processing, mounting and evaluating oral radiographs with emphasis on radiation protection for patient and operator. 1 hr. lecture, 3 hrs. lab/wk.

**DHYG 146**

**PERIODONTICS (1CR)**

*Prerequisites: DHYG 121 and no grade below a "C" in DHYG courses.*

*Corequisites: DHYG 140, BIOL 225, BIOL 230, DHYG 142, DHYG 148*

This course includes an in-depth study of the inflammation process, its relationship to periodontal disease, recognition of the etiology, signs and symptoms of periodontal disease. 1 hr. 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, 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, 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.



**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, DHYG 240*

Included in this course is 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, 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/wk, 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, DHYG 240*

Students will study restorative, prosthetic and preventive materials and their use. 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, DHYG 235*

Topics include public health agencies; statistical procedures in critiquing scientific literature; identifying dental needs of different groups; and planning dental health education programs. Preventive techniques, wellness, health promotion, consumer advocacy and role of dental hygienist in public health will be emphasized. Field experience included. 1 hr. lecture, 3 hrs. lab/wk.

**DHYG 250  
CLINICAL DENTAL HYGIENE IV (7CR)**

*Prerequisites: DHYG 221 and no grade below a "C" in DHYG courses*

This course offers continued development of proficiency in clinical techniques and current procedural practices of the dental hygienist with emphasis on self evaluation. Topics include ethics, jurisprudence, office management and current dental hygiene issues, and preparation courses for Board exams. 2 hrs. lecture, 16 hrs. clinic/wk. 1 hr. board review for 8 wks.

**DRAFTING TECHNOLOGY**

**DRAF 115  
INTRODUCTION TO  
COMPUTER GRAPHICS SYSTEMS (3CR)**

An introduction to computer graphics systems with an opportunity for students to get "hands-on" exposure to several computer graphics software packages. Emphasis will be placed on the development of an understanding of the various types of application for which each package is best suited. Students will also be exposed to various hardware peripherals necessary for the support of computer graphics varying from the programming of line vectors to the use of menu-controlled color packages. 2 hrs. lecture, 3 hrs. alternative delivery/wk.

**DRAF 120  
BASIC DRAFTING (2CR)**

Emphasis on lettering, metric and U.S. measure, visualization, geometric construction, orthographic projection, and drafting standards. 1 hr. lecture, 3 hrs. lab/wk.

**DRAF 121  
TECHNICAL ILLUSTRATION (3CR)**

*Corequisite: ENGR 131 or approval of division director*

Students will work on techniques used by technical illustrators. Topics include conversion of engineering drawings to three-dimensional isometric, dimetric, trimetric and perspective views. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 122  
INDUSTRIAL DRAFTING (3CR)**

*Corequisite: ENGR 131 or approval of division director*

Students will produce basic engineering drawings in the civil, machine, and electrical fields. Repro-drafting timesaving techniques will be studied with topics in systems drafting and photomechanical processes. 2 hrs. lecture/demonstration, 3 hrs. lab/wk.

**DRAF 123  
INTERPRETING MACHINE DRAWINGS (2CR)**

Students will work on reading machine drawings from actual production drawings. Topics include orthographic projection, dimensioning, geometric form and tolerancing. 2 hrs. lecture/wk.

**DRAF 127  
BUILDING  
CONSTRUCTION ESTIMATING I (3CR)**

*Prerequisite: DRAF 129 or approval of division director*

This is an introduction to the principles of taking-off quantities and cost accounting of building materials as required by construction contractors using working drawings, reference books, tables and C.S.I. Format to perform estimates. 3 hrs./wk.

**DRAF 128  
BUILDING  
CONSTRUCTION ESTIMATING II (3CR)**

*Prerequisite: DRAF 127 or approval of division director*

Provides in-depth study and applications in making complete building cost estimates using professional resource materials. Actual working drawings, estimate forms and computerized software will be used. 3 hrs. lecture/wk.

**DRAF 129  
INTERPRETING  
ARCHITECTURAL DRAWINGS (2CR)**

This beginning course explains the fundamentals of interpreting architectural type drawings (blueprints). 2 hrs. lecture/wk.

**DRAF 150  
ELECTRICAL DRAFTING (3CR)**

*Prerequisites: DRAF 122, MATH 133 or approval of division director*

Drafting techniques will be applied to lighting, motor controls, power distribution and generation. Emphasis will be on use of tables, catalogs and computer applications as aids, as well as decision making required on electrical drawings. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 160  
PROCESS PIPING (3CR)**

*Prerequisite: DRAF 122 or approval of division director*

Students will become familiar with symbols, terminology, specifications, piping fittings and valving relating to process pipe drawings. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 175  
ELECTRONICS DRAFTING (3CR)**

*Prerequisite: ENGR 131  
Corequisite: DRAF 122*

This course emphasizes the design and drafting techniques involved in the production of electronics industry equipment for consumer and commercial use. Topics include: block diagrams, schematic diagrams, component identification, logic diagrams and printed wiring board drawings. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 180  
ARCHITECTURAL/  
STRUCTURAL DRAFTING (4CR)**

*Prerequisites: DRAF 122, MATH 134 or approval of division director*

In this study of commercial architectural structures, students will become familiar with residential construction, structural components, terminology, fabrication and erection drawings. 2 hrs. lecture, 6 hrs. lab/wk.

**DRAF 222  
MACHINE DRAFTING (4CR)**

*Prerequisites: DRAF 122, MATH 134, MFAB 121 or approval of division director*

Emphasis on development of skills necessary to enter drafter positions in manufacturing industries. Topics covered include interpreting machine drawings, using jigs, fixtures, gearing and clamping. 2 hrs. lecture, 6 hrs. lab/wk.

**DRAF 225**  
**CARTOGRAPHY AND**  
**LAND SURVEYING (3CR)**

*Prerequisites: MATH 133 and DRAF 122 or approval of division director*

This is an introduction to map drafting and methods of land surveying used by engineering firms. Topics include profiles, map plotting and layout from notes, equipment, record keeping, field problems and computer applications. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 227**  
**PIPING DESIGN (3CR)**

*Prerequisite: DRAF 160, MATH 172, or permission of division director*

Concepts necessary for designing and analyzing pipe systems will be covered. Topics will include ASTM and ANSI standards, routing, flexibility, insulation, supporting and estimating. 3 hrs. lecture/wk.

**DRAF 230**  
**INTRODUCTION TO COMPUTER-**  
**AIDED DRAFTING 2-D (3CR)**

*Prerequisite: ENGR 131 or permission of division director*

Students will focus on computer-aided drafting equipment including graphics terminal digitizer, plotter, microcomputer and drafting tools. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 231**  
**COMPUTER-AIDED DRAFTING 3-D (3CR)**

*Prerequisite: DRAF 230*

In this continuation of Computer-Aided Drafting 2-D, students will work on expanding their understanding of two-dimensional drafting into three-dimensional drafting and modeling. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 232**  
**COMPUTER-AIDED**  
**DRAFTING APPLICATIONS (3CR)**

*Prerequisite: DRAF 231*

Students will develop skills and concepts used in 3-D CAD through in-depth study of selected software available in architectural, electrical and mechanical fields.

**DRAF 261**  
**GRAPHIC COMMUNICATIONS**  
**FOR INTERIOR DESIGN (3CR)**

This course is provided for persons interested in developing competencies in the following areas: interpreting architectural drawings, floor planning, interior design presentation boards, perspective drawings and design considerations. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 264**  
**CAD: INTERIOR DESIGN (3CR)**

*Prerequisite: ITMD 122 or division director approval*

An introduction to the use of computer-aided drafting (CAD) as used in the field of interior design. Students will use their knowledge of drafting and interior design to draw and lay out interior spaces on the computer and will learn how to operate a CAD system to draw floor plans and furniture and to do space planning. Students will receive instruction on the operation of the computer hardware and software needed for these graphics. 2 hrs. lecture, 3 hrs. lab/wk.

**DRAF 271**  
**DRAFTING**  
**COOPERATIVE EDUCATION I (2-9CR)**

*Prerequisite: 14 credit hours in drafting and approval of division director*

Students will have the opportunity to gain on-the-job work experience under the supervision of professionals in the industry. Students and area employers and staff will work together to create meaningful job experiences. 1 hr. lecture, 6-17 hrs. on-the-job experience/wk.

**DRAF 272**  
**DRAFTING**  
**COOPERATIVE EDUCATION II (2-9CR)**

*Prerequisite: DRAF 271 and approval of division director*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry.

**DRAF 273**  
**DRAFTING**  
**COOPERATIVE EDUCATION III (2-9CR)**

*Prerequisite: DRAF 272 and approval of division director*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry.

## **ECONOMICS**

**ECON 130**  
**BASIC ECONOMICS (3CR)**

This course is designed for students planning to take only one economics course and for those who want a non-technical introduction to the subject. Topics will be selected according to the interests of the class. 3 hrs./wk.

**ECON 230  
ECONOMICS I (3CR)**

This class will cover supply and demand; national income determinations; money and banking; monetary and fiscal policy. (Macro) 3 hrs./wk.

**ECON 231  
ECONOMICS II (3CR)**

*Prerequisite: ECON 230*

Emphasis in this continuation of Economics I is on supply and demand, theory of the firm and market structures. (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 include the roles and responsibilities of the teacher, various modes of instruction, specialized areas in teaching and professional requirements and concerns. 20 hrs. observation in a school setting required. 3 hrs. lecture/wk.

**EDUC 220  
SURVEY OF THE EXCEPTIONAL CHILD (3CR)**

This is a survey of the exceptionalities now being served in public schools and the characteristics of each. 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. One 6-hr. session. Outside readings and a 12-hour practicum are required.

**EDUC 223  
BASIC STRATEGIES FOR SPECIAL  
EDUCATION PARAPROFESSIONALS II (1CR)**

*Prerequisite: EDUC 222*

Emphasis is on defining the responsibilities and role of the paraprofessional in special education programs. Outside readings and a 12-hour practicum are required. One 6-hr. session

## **ELECTRONICS**

**ELEC 120  
INTRODUCTORY ELECTRONICS (3CR)**

Topics include laboratory instruments, circuit components, basic measurement techniques, basic circuits. 2 hrs. lecture, 4 hrs. lab/wk.

**ELEC 121  
BASIC TELEPHONY (3CR)**

In this detailed investigation of telephony, students will be exposed to the history, basic concepts, and technical vocabulary of telephone systems and the equipment involved in those systems. The student will have the opportunity to develop an understanding of telephones, telephone systems, central offices, PBX's and networks needed to function in a telephony environment. 3 hrs. lecture/wk.

**ELEC 122  
CIRCUIT ANALYSIS I (3CR)**

*Corequisites: ELEC 120 and MATH 133*

Topics include fundamental DC circuit concepts such as Kirchoff's Laws, Ohm's Law, Thevenin's Theorem, Norton's Theorem, Superposition Theorem and nodal analysis. 3 hrs. lecture/wk.

**ELEC 123  
ELECTRONIC KEY SYSTEMS (3CR)**

*Prerequisite: ELEC 121 or three years of industry experience and division director approval*

A comprehensive study of the evolution of the electronic key telephone system. Students will have the opportunity to learn the industry standard definition of electronic key system features, installation techniques, programming procedures, and final check-out procedures to insure a satisfied customer and quality installation. 3 hrs. lecture/lab wk.

**ELEC 125  
DIGITAL ELECTRONICS I (3CR)**

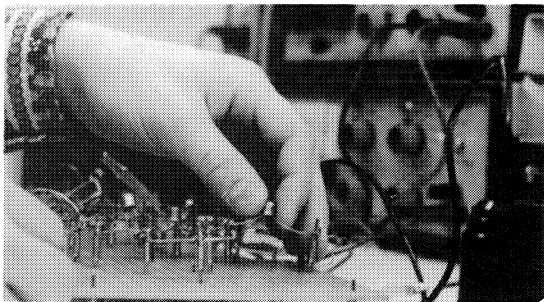
*Corequisite: ELEC 120*

This is the first in a three-semester series in digital electronics. It includes study of binary numbers and codes, binary arithmetic, logic circuits, arithmetic circuits, flip-flops and counters. 2 hrs. lecture, 3 hrs. lab/wk.

**ELEC 130  
ELECTRONIC DEVICES I (3CR)**

*Prerequisite: ELEC 122*

Resistive circuits in which electronic devices are employed. Introduction to volt-ampere characteristics and physics of diodes, transistors and practical circuits using these devices. 2 hrs. lecture, 3 hrs. lab/wk.



**ELEC 140**  
**CIRCUIT ANALYSIS II (3CR)**

*Prerequisite: ELEC 122*  
*Corequisite: MATH 134*

This class focuses on fundamental concepts of AC circuit analysis and transient circuit analysis as applied to circuits containing resistors, capacitors and inductors. 3 hrs. lecture/wk.

**ELEC 225**  
**DIGITAL ELECTRONICS II (3CR)**

*Prerequisite: ELEC 125*

This is the second in a three-course series in digital electronics. It includes a study of registers, counters, memories, computer architecture and computer instructions. 2 hrs. lecture, 3 hrs. lab/wk.

**ELEC 230**  
**ELECTRONIC DEVICES II (3CR)**

*Prerequisite: ELEC 130*

AC analysis of transistor amplifier circuits for both small signal and power amplifiers. Bipolar, field effect transistors and operation of amplifiers are considered. 2 hrs. lecture, 3 hrs. lab/wk.

**ELEC 240**  
**ELECTRONIC COMMUNICATION SYSTEMS (4CR)**

*Prerequisite: ELEC 230*

This class concentrates on electronic communication systems including AM and FM radio receivers and transmitters, antennas, broadcast stations, television and microwave. 4 hrs. lecture/wk. Spring.

**ELEC 245**  
**MICROPROCESSORS (3CR)**

*Prerequisite: ELEC 225 and ELEC 120*

An introduction to microprocessors and microcomputers. Topics include machine language programming, microcomputer architecture, microcomputer hardware, and troubleshooting techniques for microcomputers. 2 hrs. lecture, 3 hrs. lab/wk.

**ELEC 271**  
**ELECTRONICS COOPERATIVE EDUCATION I (2-9CR)**

*Prerequisite: 9 credit hours in program major courses at JCCC and approval of division director*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and 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. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

**ELEC 272**  
**ELECTRONICS COOPERATIVE EDUCATION II (2-9CR)**

*Prerequisite: 9 credit hours in program major courses at JCCC and approval of division director*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

**ELEC 273**  
**ELECTRONICS COOPERATIVE EDUCATION III (2-9CR)**

*Prerequisite: ELEC 272*

This cooperative education course provides advanced students with on-the-job experience under the supervision of college staff and professionals in the industry. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

## **EMERGENCY MEDICAL SCIENCE**

**EMS 121**  
**CPR I-BASIC RESCUER (1CR)**

This class represents an in-depth study of the techniques, rationale, and background material related to basic life support procedures. Successful completion of both the didactic and practical 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 taught by the Emergency Medical Technology Program. Students will have the advantage of being trained by instructors who are educated and experienced in pre-hospital care procedures. This course will meet the 1 hr. of physical education requirement needed for graduation. 2½ hrs. lecture/lab/wk. for 8 wks.

**EMS 125****CPR II-BASIC CPR INSTRUCTOR (1CR)**

*Prerequisite: Successful completion of EMS 121 or current certification by AHA as Basic Rescuer*

This class includes review of EMS 121 (Basic Rescuer) techniques; designing and implementing CPR courses; demonstration of mastery performances; mini-lectures. Upon successful completion of this class, students will be certified by the American Heart Association as BCLS Instructor. A certification fee is required. This class is taught by the Emergency Medical Technology Program. 2½ hrs. lecture/lab/wk. for 8 wks.

**EMS 130****EMERGENCY MEDICAL TECHNICIAN (6CR)**

This class represents an in-depth study of techniques, rationale, and background material necessary to perform duties as an Emergency Medical Technician. Classroom instruction covers medical terminology, anatomy and physiology, patient assessment, and recognition and treatment of various types of 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 Bureau of Emergency Medical Services. 3½ hrs. lecture, 3½ hrs. lab/wk. Students are also required to attend approximately 6 Saturday sessions lasting approximately 4 hours each. (These Saturday dates and times will be announced during the first class session.)

**EMS 140****BASIC CARDIOLOGY AND EKG RECOGNITION (2CR)**

*Prerequisite: Permission of coordinator*

Topics 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 covers roles and responsibilities, medical terminology, anatomy and physiology as they apply to the MICT. Other topics include diagnostic signs and assessment of patients, biomedical communication, venipuncture, medication administration techniques, advanced airway management, managing the cardiac patient, and ECG interpretation. 24 hrs. lecture/wk.

**EMS 225****MICT II (10CR)**

*Prerequisite: EMS 220 with a minimum grade of "C"*

This fundamental course covers diagnosis, etiology and field treatment of victims of respiratory emergencies and of 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. 24 hrs. lecture/wk., 48/hrs. field observation/mo.

**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 included. 32 hrs. clinical lab/wk., 16 hrs./mo. lecture, 48 hrs. field lab/mo.

**EMS 271****MICT IV FIELD INTERNSHIP (15CR)**

*Prerequisite: EMS 230 with a minimum grade of "C"*

The student will act as an EMICT 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 pre-hospital protocols. 54 hrs. field lab/wk., 16 hrs./mo. lecture/lab.

## ENERGY TECHNOLOGY

### ENER 105

#### AVTS: PLUMBING

#### INSTALLATION PRACTICES I (3CR)

Apprentice/students will be introduced to the basic elements of plumbing, plumbing applications, and sciences in safety. Basic hand and power tools in the trade will be discussed, as will the nature of the role of the apprentice/student in the plumbing industry. 3 hrs. lecture/wk.

### ENER 111

#### AVTS: BASIC PRINCIPLES OF HVAC (4CR)

*Prerequisite: MATH III or appropriate score on math assessment test*

Upon successful completion of this course, the student should be able to demonstrate an understanding of brazing, evacuating and charging refrigeration systems. As an introduction to the basic elements of refrigeration, topics include heat laws, refrigeration cycles and typical system components. Lab work will include designing, assembling and operating a working system. 3 hrs. lecture/wk., 7 hrs. lab/wk.

### ENER 114

#### AVTS:

#### ELECTROMECHANICAL SYSTEMS (5CR)

An introductory course in the relationship of components and the various repair and troubleshooting techniques, this course would be especially useful for service technicians who have limited background in electricity. Topics include the relationship of components and the various repair and troubleshooting techniques, ranging from basic electrical theory to troubleshooting complete dual-compressor split systems. Students will also have the opportunity to apply electrical theory and practice the interconnection of air conditioning and refrigeration systems components. 3 hrs. lecture/wk., 7 hrs. lab/wk.

### ENER 121

#### BASIC PRINCIPLES OF HVAC (4CR)

This class introduces the student to the basic elements of refrigeration systems. Topics include heat laws, refrigeration cycles and typical system components. In the lab, the student designs, assembles and operates a working system. Competencies include brazing, evacuating and charging the system. 3 hrs. lecture, 3 hrs. lab/wk.

### ENER 123

#### ELECTROMECHANICAL SYSTEMS (3CR)

This is an introductory electrical course dealing with the components and circuits used in HVAC systems. The students will interpret schematic wiring diagrams. In the lab students will assemble 36 different projects including motor starting, time delay and refrigeration defrost circuits. 2 hrs. lecture, 3 hrs. lab/wk.

### ENER 124

#### RESIDENTIAL HVAC ESTIMATING (3CR)

*Prerequisite: ENER 121*

Students will interpret drawings and specifications for various homes and properly size heating and cooling systems. Topics include load calculations, duct sizing, system design and layout. 2 hrs. lecture/wk., 3 hrs. lab/wk.

### ENER 125

#### ENERGY ALTERNATIVES (3CR)

This class compares the relative merits, liabilities and practicalities of various energy options. The primary emphasis is on conventional fossil and nuclear fuels as well as renewable resources such as solar, wind and geothermal energies. 3 hrs. lecture/wk.

### ENER 126

#### RESIDENTIAL HVAC SYSTEMS (3CR)

*Prerequisites: ENER 121 and ENER 123*

The main emphasis of this course is installing, maintaining and repairing home HVAC systems. Hands-on competencies include measuring air flow, evacuation and charging, combustion testing and diagnosing electrical failures. Emphasis is placed on high efficiency equipment and heat pumps. 2 hrs. lecture, 3 hrs. lab/wk.

### ENER 128

#### INSTRUMENTATION AND CONTROL DEVICES (3CR)

*Prerequisites: ENER 121 and ENER 123*

The student studies residential control systems. The course focuses on controls used in central air conditioning systems. Specific devices include thermostats, aquastats, limit switches, sequencing and primary controls. 2 hrs. lecture, 3 hrs. lab/wk.

**ENER 129**  
**DOMESTIC SOLAR SYSTEMS (3CR)**

This course deals with the practical design and installation of home heating and hot water heating via active solar systems. Basic components, typical systems, control and integration into existing heating systems are covered both in class and through lab projects. 2 hrs. lecture, 3 hrs. lab/wk.

**ENER 130**  
**PASSIVE SOLAR FUNDAMENTALS (3CR)**

This course deals chiefly with structural designs that optimize the passive use of heating and cooling residences. Topics include sun spaces, solariums, greenhouses, trombe walls and direct and indirect gain. Students calculate the heat output of various solar additions for given sun angles and building materials. 3 hrs. lecture/wk.

**ENER 132**  
**BASIC**  
**ELECTROMECHANICAL CONTROLS (1CR)**

*Prerequisite: ENER 123 or approval of division director*

Introduction to two-position and proportional control systems. Included topics are low voltage and line voltage controls, sensor types, electronic vs. pneumatic systems, enthalpy controls, valves and modulating motors. Lab demonstrations include wiring of controls to simulate various operating systems and review the operation of feedback control systems. Scheduled to meet individual needs.

**ENER 134**  
**CENTRA CONTROL SYSTEMS (1CR)**

*Prerequisite: ENER 123 or approval of division director*

Analysis of the Centra series of controls designed to save energy in various heating and cooling applications. Series of controls includes two-, three-, and four-way valves as well as two-position and proportional control of the valves. Various analog integrating devices include inputs from supply and return temperatures, outside environmental sensors including solar, temperature and wind, and indoor temperatures including set-back limits. Scheduled to meet individual needs.

**ENER 136**  
**ELECTRONIC CONTROL SYSTEMS (1CR)**

*Prerequisite: ENER 123 or equivalent*

Analysis of specific electronic controls designed to save energy in various HVAC applications. This is accomplished by modulating equipment output to match energy demand, schedule equipment usage, utilize outside air for "free" cooling, and to optimize the starting and stopping of equipment without sacrificing occupant comfort. Both analog and digital systems are covered. Scheduled to meet individual needs.

**ENER 138**  
**FLAME SAFEGUARD CONTROLS (1CR)**

*Prerequisite: ENER 123 or equivalent*

Study of the controls that start, supervise and shut down the operation of burners in commercial boiler applications. The course focuses on flame detectors, gas valves, firing rate, and primary and programming controls. Lab demonstrations include wiring controls to operating equipment. Scheduled to meet individual needs.

**ENER 160**  
**PLUMBING SYSTEMS I (3CR)**

*Prerequisite: MATH 111, or appropriate score on math assessment test, or division director approval*

An introduction to the basic elements of plumbing, topics including plumbing fixtures, valves and piping, water, drain, vent and gas systems, and various health aspects. 3 hrs. lecture/wk.

**ENER 221**  
**COMMERCIAL SYSTEMS:**  
**AIR CONDITIONING (4CR)**

*Prerequisite: ENER 121 and ENER 123*

This course covers large cooling systems used in commercial, institutional and industrial applications. Types of equipment include reciprocating and centrifugal chillers, absorption systems and cooling towers. Topics also include psychrometrics, pressure-enthalpy diagrams and commercial load calculations. 3 hrs. lecture, 3 hrs. lab/wk.



**ENER 222  
ADVANCED CONTROL SYSTEMS (4CR)**

*Prerequisite: ENER 123*

This course covers four basic types of control systems: pneumatic, electronic, electromechanical and digital as applied to fans and air handlers. Classroom lecture centers around components, blueprints and wiring diagrams. Laboratory competencies include using modular control motors, sequencing controls, analog to digital converters and motor starters. 2 hrs. lecture, 3 hrs. lab/wk.

**ENER 223  
COMMERCIAL SYSTEMS: HEATING (4CR)**

*Prerequisite: ENER 123*

This course covers large heating systems used in commercial, institutional and industrial applications. Types of equipment include hot water and low pressure steam boilers, auxiliary, safety and flame safeguard controls, steam traps and condensate return and water treatment systems. 3 hrs. lecture, 3 hrs. lab/wk.

**ENER 224  
DIAGNOSIS AND  
SERVICE PROCEDURES (3CR)**

*Prerequisites: ENER 121 and ENER 123*

The main focus of this course is the systematic approach to locate and repair HVAC system malfunctions. Classroom topics include electrical, lubrication, evacuating, charging, air and water flow problems. Laboratory experience simulates typical service procedures as students troubleshoot and repair faulty equipment. 2 hrs. lecture, 3 hrs. lab/wk.

**ENER 226  
ENERGY MANAGEMENT (3CR)**

This course studies how energy is consumed in commercial and industrial buildings and how energy usage may be reduced. Topics include building design, load management, improving equipment efficiency, improved lighting systems, utility rate structures, and energy management control systems. 2 hrs. lecture, 3 hrs. lab/wk.

**ENER 271  
HVAC COOPERATIVE EDUCATION I (2-9CR)**

*Prerequisite: 9 credit hours in JCCC energy courses or approval of division director*

Students can gain on-the-job experience under the supervision of professionals in the industry. The student will work with area employers and college staff to develop specific job competencies beneficial to a career in HVAC. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

**ENER 272  
HVAC COOPERATIVE EDUCATION II (2-9CR)**

*Prerequisite: ENER 271 and division director approval*

Students will work in approved job placements under instructional supervision. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

**ENER 273  
HVAC COOPERATIVE EDUCATION III (2-9CR)**

*Prerequisite: ENER 272*

Students will work in approved training situations under instructional supervision. 1 hr. lecture, 6-27 hrs. on-the-job experience/wk.

**ENER 274  
HVAC COOPERATIVE EDUCATION IV (2-9CR)**

*Prerequisite: ENER 273*

Students will work in approved training situations under instructional supervision. 1 hr. lecture, 6-27 hrs. on-the-job training/wk.

**ENER 281  
SOLAR PROJECT (4CR)**

For individuals wishing to pursue an in-depth aspect of solar design and/or solar construction, this course allows an independent study approach. Topical research is assigned to the student and laboratory projects are scheduled in cooperation with instructors. 2 hrs. lecture, 6 hrs. lab/wk.

## ENGINEERING

**ENGR 105  
CONSTRUCTION METHODS I (3CR)**

An introduction to construction industry terminology, methods, procedures, equipment, sequences of operation, types of construction and planning. 3 hrs./wk.

**ENGR 107  
CONSTRUCTION METHODS II (3CR)**

*Prerequisite: ENGR 105*

This course covers estimating procedures, scheduling processes, bid preparation, and construction drawings. 3 hrs./wk.

**ENGR 121  
ENGINEERING ORIENTATION (1CR)**

In this introduction to several engineering disciplines, students will have the opportunity to meet with professional engineers and engineering faculty members at regional universities. The class includes presentations, field trips, information about current transfer requirements and about scholarships. 1 hr./wk.

**ENGR 131  
ENGINEERING GRAPHICS I (3CR)**

*Prerequisites: High School Geometry & Trigonometry; or DRAF 120; or appropriate score on Drafting Assessment Test; or permission from division director*

The principles of graphics and design processes will be introduced in this class. Topics include interpretation of drawings; interrelation of points, lines, and planes; intersections and developments; graphical solutions by charts and graphs; orthographic projection; computer-aided operations and computations. Emphasis will be on visualization. 2 hrs. lecture, 3 hrs. lab/wk.

**ENGR 132  
ENGINEERING GRAPHICS II (3CR)**

*Prerequisite: ENGR 131*

Students will study and 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)**

*Prerequisites: MATH 171*

Students will study and use FORTRAN programming language to develop programming techniques for solving scientific and engineering problems on digital computers. 3 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 equivalent*

This class explains the basic applications of plane surveying procedures, measurement of horizontal distances, directions, angles, leveling, traversing, curves, stadia coordinates; computations with the aid of a computer; and topographical property and construction surveying. Students will take part in field operations using such equipment as auto levels, theodolites and EDM. 2 hrs. lecture, 3 hrs. lab/wk.

**ENGR 211  
TECHNICAL STATICS AND MECHANICS (3CR)**

*Prerequisite: MATH 134 or MATH 172*

A study of the force systems in equilibrium, centroids, moment of inertia, trusses, frames and fraction. The topics of elastic stress and strain, torsion and beam and column behavior will also be covered. Computer applications will also be discussed. 3 hrs. lecture/wk.

**ENGR 222  
CIRCUIT THEORY I (3CR)**

*Prerequisites: MATH 243 and PHYS 220*

*Corequisites: MATH 244 and PHYS 221*

This course is the first of a two-semester sequence dealing with electrical circuit theory. Students will analyze linear passive electrical circuits. 3 hrs. lecture/wk.

**ENGR 231  
THERMODYNAMICS (3CR)**

*Prerequisites: MATH 242, PHYS 220 and CHEM 124*

This course is an introduction to the thermodynamic principles and their application to the analysis of energy systems which include various power and refrigeration cycles. 3 hrs. lecture/wk.

**ENGR 251  
STATICS (3CR)**

*Prerequisites: MATH 242 and PHYS 220*

This class covers vectors, force systems, friction, centroids and moments of inertia. Computer applications will be included. 3 hrs. lecture/wk.

**ENGR 252  
MECHANICS OF MATERIALS (3CR)**

*Prerequisite: ENGR 251*

Students will study the theory of simple stress and strains in elastic materials, torsion, beams and columns. Computer applications included. 3 hrs. lecture/wk.

**ENGR 254  
DYNAMICS (3CR)**

*Prerequisite: ENGR 251*

Topics include unbalanced force systems and the resulting motion, work and energy, impulse, momentum and impact. Computer applications will be included. 3 hrs. lecture/wk.

**ENGR 258  
STRUCTURAL ANALYSIS AND DESIGN (5CR)**

*Prerequisite: ENGR 211*

An introductory course for the analysis and design of simple structural systems with investigation of structural members and systems composed of steel, reinforced concrete and wood with regard to strength and structural behavior. Design standards including AISC, ACI, AITC, and UBC will be introduced, as will computer analysis of structures. 4 hrs. lecture, 3 hrs. lab/wk.

## **ENGR 285**

### **PROJECT LABORATORY (1-4CR)**

*Prerequisite: Permission of division director*

Students will construct and possibly design equipment as agreed upon with the instructor. By arrangement.

## **ENGLISH**

### **DEVELOPMENTAL COURSES**

ENGL 102 through ENGL 112 are designed to assist the student to develop basic skills in writing, grammar, sentence patterns, composing, proofreading, editing and documenting information. Emphasis is placed on assessing and developing a plan to meet individual student needs. These courses do not fulfill degree requirements.

### **ENGL 102 WRITING STRATEGIES (3CR)**

*Prerequisite: Appropriate placement test score*  
Intended for beginning 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. lecture, 1 lab/wk.

### **ENGL 103 PRACTICAL WRITING SKILLS (1CR)**

A practical writing course in English for non-native speaking students and the hearing impaired, this course focuses 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.  
Class meets by arrangement.

### **ENGL 105 BASIC ENGLISH GRAMMAR (3CR)**

*Prerequisite: Appropriate assessment score*  
This course focuses 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 begin with a review of sentence skills then move into writing paragraphs, emphasizing topic selection, organization, development and editing. The course concludes 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. Class includes 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. Class includes 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. By arrangement.

### **ENGL 110 ENGLISH GRAMMAR REVIEW (1CR)**

Students will take diagnostic tests to determine at which level they should begin work. They will use programmed materials dealing with parts of speech, sentence structure, verb forms, modifiers, pronoun choices, sentence fragments and run-ons, punctuation and capitalization.  
By arrangement.

### **ENGL 112 RESEARCH SKILLS (1CR)**

This course is a review of the various aspects of the research process, beginning with limiting the subject and moving to revising the finished product. Emphasis is 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.

## REGULAR COURSES

### ENGL 100 ENGLISH AS A SECOND LANGUAGE I (5CR)

*Prerequisite: Appropriate assessment score*

This course is designed for students who are familiar with English but who have limited speaking skills. The class focuses on pronunciation and listening comprehension as well as basic grammar and sentence structure. 5 hrs./wk.

### ENGL 101 ENGLISH AS A SECOND LANGUAGE II (3CR)

*Prerequisite: ENGL 100 or approved assessment score*

This course includes continued work in pronunciation, grammar and sentence structure but emphasizes improvement of reading skills. 3 hrs./wk.

### ENGL 121 COMPOSITION I (3CR)

*Prerequisite: ENGL 106 or appropriate placement test score*

This standard freshman English I course concentrates on invention, paragraph development, essay format, and an introduction to the research paper. Students will practice developing form and content of clear, interesting compositions. 3 hrs./wk.

### ENGL 122 COMPOSITION II (3CR)

*Prerequisite: ENGL 121*

This standard freshman English II course emphasizes organization and development of 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*

Emphasis will be on written communication related to manufacturing and engineering including short reports, letters and resumes. 3 hrs./wk.

### ENGL 210 TECHNICAL WRITING II (3CR)

*Prerequisite: ENGL 123*

Upon successful completion of this course, the student should be familiar with writing techniques appropriate for technology, industry, and business. The student will also have the opportunity to develop skills in the preparation of technical communiques including forms, plans, summaries, newsletter articles, press releases, memorandums, and letters, as well as short and long reports. 3 hrs. lecture/wk.

### ENGL 222 ADVANCED COMPOSITION (3CR)

*Prerequisite: ENGL 122*

Students will write expository and argumentative essays, practicing subject selection, development, organization and style. 3 hrs./wk. Fall.

### ENGL 223 CREATIVE WRITING (3CR)

*Prerequisite: ENGL 122*

Students will study and practice poetry and short story writing. Topics include writing verse and fiction effectively; marketing; and narrative forms such as the play, novel and autobiographical sketch. Students will prepare projects in poetry and narrative writing for submission to professional editors. 3 hrs./wk.

### ENGL 224 CREATIVE WRITING WORKSHOP (3CR)

*Prerequisite: ENGL 223*

Students with serious writing aspirations will get advanced practice in writing the short story, novel, non-fiction narrative, play and poetry. Students will critique each other's work. 3 hrs./wk. Spring.

### 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 WRITERS (3CR)

*Prerequisite: ENGL 122*

Students will read complete works of selected American writers and be assigned related writing projects. The course focuses on important works of various writers and the relationships 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 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 241**  
**BRITISH WRITERS (3CR)**

*Prerequisite: ENGL 122*

British writers – their lives, their times and their works – will be examined. Students will read selected works by major British writers and be assigned related writing projects. 3 hrs./wk. Fall.

**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. Class includes group presentations, simulations, guest speakers and related reading and writing assignments. 3 hrs./wk. Fall.

**ENGL 250**  
**WORLD MASTERPIECES (3CR)**

*Prerequisite: ENGL 122*

Students will read complete works of selected influential Western World writers. Course focuses on important works of various writers and traces their influence on later writers. Writing projects will be assigned. 3 hrs./wk. Spring.

**ENGL 252**  
**POETRY AND DRAMA (3CR)**

*Prerequisite: ENGL 122*

In this introduction to poetry and drama, students will read poetry and read and see plays of all styles and types. 3 hrs./wk. Spring.

**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. Class features group presentations, written film critiques and related reading assignments. 3 hrs./wk. Spring.

## EQUINE

**EQUUS 120**  
**STABLE MANAGEMENT I (4CR)**

The caretaking of horses – feeding, grooming, barn sanitation, and management of health problems will be studied. 2 hrs. lecture, 8 hrs. practical exercises in the stable/wk.

**EQUUS 124**  
**EQUINE ANATOMY AND PHYSIOLOGY (4CR)**

Equine Anatomy and Physiology is designed to provide the student with a general knowledge of the structure and function of the body parts of the horse. From this foundation it is hoped the student will build to become more proficient in the care, management, and use of the horse. 4 hrs./wk.

**EQUUS 128**  
**EQUITATION I (4CR)**

*Prerequisite: Concurrent enrollment in EQUUS 120*

Instruction in Dressage. Includes correct application of the riding aids, terminology, and rules for competition. 2 hrs. lecture, 4 hrs. lab/wk.

**EQUUS 132**  
**EQUINE HEALTH, DISEASE, NUTRITION, AND DISORDERS (4CR)**

*Prerequisite: EQUUS 124*

Equine Health, Disease, and Disorders is a course to familiarize the student with common health problems of the horse. Preventive health, parasites, toxicology, infectious diseases, and disorders of individual body systems will be covered. Additionally nutrition and its related disorders will be discussed. 4 hrs./wk.

**EQUUS 134**  
**TECHNIQUES OF RIDING INSTRUCTION I (3CR)**

*Prerequisite: EQUUS 128, EQUUS 154*

Students who intend to specialize in riding instruction can participate in this class. It features demonstrations of teaching methods, skills development and oral presentations. 4 hrs./wk.

**EQUUS 135**  
**TECHNIQUES OF**  
**RIDING INSTRUCTION II (3CR)**

*Prerequisite: EQUUS 134*

Areas covered include planning safe camp programs and public lessons, rider problems, maintenance of the school horse, and practice in planning and teaching at the elementary and intermediate levels of riding. 4 hrs./wk.

**EQUUS 140**  
**STABLE MANAGEMENT II (4CR)**

*Prerequisite: EQUUS 120*

This course covers fitting and presentation of horses for show and sale, loading and hauling, and judging both as a professional and for the purchase of stock for prospective use of various areas. 2 hrs. lecture, 8 hrs. lab/wk.

**EQUUS 154**  
**EQUITATION II (4CR)**

*Prerequisites: EQUUS 128 and concurrent enrollment in EQUUS 140*

Instruction in Saddleseat Equitation, with emphasis on position of rider, control of horse, and basic movement. Topics include tests often required in shows, equipment for correcting faults, and the form for mounts according to breed and type. 2 hrs. lecture, 4 hrs. lab/wk.

**EQUUS 220**  
**STABLE MANAGEMENT III (4CR)**

*Prerequisite: EQUUS 140*

This continuation of EQUUS 140 emphasizes horse handling and training. It covers handling, conditioning and training as applied to horses of all ages. Topics covered will include variation in training methods as applied to different breeds and types of horses. 2 hrs. lecture, 8 hrs. lab/wk.

**EQUUS 222**  
**EQUINE BREEDING**  
**AND MANAGEMENT (4CR)**

*Prerequisite: EQUUS 124*

Topics include anatomy, reproductive physiology, genetics, breeding diseases, congenital and hereditary problems, selection and management of breeding stock. 4 hrs./wk.

**EQUUS 240**  
**STABLE MANAGEMENT IV (4CR)**

*Prerequisite: EQUUS 220*

Study of business functions related to stable management, human relations and supervisory techniques. 2 hrs. lecture, 8 hrs. lab/wk.

**EQUUS 260**  
**ADVANCED EQUITATION (4CR)**

*Prerequisites: EQUUS 128 and EQUUS 154*

This course will provide students an opportunity to further their riding skills and knowledge in their preferred areas of equitation. 1 hr. lecture, 5 hrs. lab/wk.

**EQUUS 281**  
**ADVANCED EQUITATION PROJECT (2CR)**

*Prerequisite: Approval of division director*

Under the supervision of an instructor, the student will develop an individual project stressing skills not fostered in the equine program courses. Projects must have clearly stated objectives and be approved by program coordinator. 4 hrs./wk.

## **FASHION MERCHANDISING**

**FASH 121**  
**FASHION FUNDAMENTALS I (3CR)**

Students will study the total fashion industry from the designer to the manufacturer and distributor. The class will conclude with the merchandising techniques of different retail operations. 3 hrs./wk.

**FASH 125**  
**FASHION DISPLAY (3CR)**

The visual merchandising of fashion-related products is the topic of this course. Students will work on creating effective interior and exterior displays using materials, colors, lighting and signage. 3 hrs./wk.

**FASH 130**  
**FASHION ILLUSTRATION I (3CR)**

Students will sketch human figures and clothing designs to be used in newspaper and magazine advertising. 3 hrs./wk.

**FASH 132**  
**FASHION PROMOTION (3CR)**

Fashion promotion – including publicity, special events, fashion shows, and advertising will be explored in this course. 3 hrs./wk.

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**FASH 135**  
**CAREER WARDROBE PLANNING (1CR)**

Students will examine the concepts necessary for the development of professional self-image. The course begins with an extensive wardrobe inventory and progresses through an examination of men's and women's individual personal grooming, principles and elements of design, fabrics and accessories. It will culminate with the development of an individual professional wardrobe plan. 1 hr. lecture/wk.

**FASH 150**  
**TEXTILES (3CR)**

Natural and synthetic textile fibers, weaves, knits, dyeing and printing methods will be studied with emphasis on selling points, care and use of textiles. 3 hrs./wk.

**FASH 220**  
**FASHION IN SOCIETY (3CR)**

In this look at the psychological, economic and sociological aspects of clothing, students will relate wardrobe management and artistic expression to personal clothing choices and to clothing symbolism in other cultures. 3 hrs./wk.

**FASH 224**  
**HISTORY OF DRESS (3CR)**

In this look at the evolution of dress in the Western world, key topics will be the fashion cycle and how economic, political, social and technological advancements affect it. 3 hrs./wk. Spring.

**FASH 230**  
**FASHION ILLUSTRATION II (3CR)**

*Prerequisite: FASH 130*

This is an in-depth study of fashion illustration as a visual selling tool with emphasis on developing an individual style. Students will develop a portfolio geared to their individual goals. 3 hrs./wk.

**FASH 231**  
**FASHION FUNDAMENTALS II (3CR)**

*Prerequisite: FASH 121*

The technical aspects of merchandising, personnel policies, principles of management, role of the buyer, buying principles and merchandising mathematics are covered in this course. 3 hrs./wk. Fall.

**FASH 242**  
**MERCHANDISE EVALUATION (3CR)**

Students will evaluate textile and non-textile products ranging from lingerie to china. Students prepare a research paper on selected products and conduct simulated departmental meetings to train staff in merchandising and selling of these products. 3 hrs./wk. Spring.

**FASH 271 (3CR)**  
**FASH 272 (2CR)**  
**FASHION SEMINAR: HUMAN RELATIONS**

*Prerequisite: Admission to the Fashion Merchandising program*

Students will work in an approved training situation under supervision of the instructor, concentrating on how people can work effectively in groups to satisfy both individual and organizational needs. 2 hrs./wk. with a minimum of 15 hrs. on-the-job training by arrangement. Fall.

**FASH 274 (3CR)**  
**FASH 275 (2CR)**  
**FASHION SEMINAR:**  
**SUPERVISORY DEVELOPMENT**

*Prerequisite: Admission to the Fashion Merchandising program*

Students will work in an approved training situation under the supervision of the instructor, concentrating on communicating ideas, obtaining teamwork, determining goals, assessing promotability, getting results through group effort and key problems in supervision. 2 hrs./wk. with a minimum of 15 hrs. on-the-job training/wk. by arrangement. Spring.

**FASH 276 (3CR)**  
**FASH 277 (2CR)**  
**FASHION SEMINAR: CAREER OPTIONS**

*Prerequisite: Admission to the Fashion Merchandising program*

Students will work in an approved training situation under the supervision of the instructor. Students develop career goals by exploring five (5) career area options. 2 hrs./wk. with a minimum of 15 hrs. on-the-job training/wk. by arrangement. Fall.

**FASH 279 (3CR)**

**FASH 280 (2CR)**

**FASHION SEMINAR: MARKET RESEARCH**

*Prerequisite: Admission to the Fashion Merchandising program*

Students will work in an approved training situation under the supervision of an instructor, concentrating on marketing research and problem-solving techniques. Topics include simple statistical measurements and how they can help solve specific business problems. 2 hrs./wk. and a minimum of 15 hrs. on-the-job training by arrangement/wk. Spring.

**FASH 298**

**EUROPEAN FASHION EMPHASIS (3CR)**

This class offers a comparison of American and European retail merchandising, advertising and visual presentation on site in European cities.

**FIRE PROTECTION/  
FIRE PREVENTION  
AND FIRE ADMINISTRATION**

**FIRE 121**

**FUNDAMENTALS OF  
FIRE PREVENTION (3CR)**

This class covers the organization and function of fire prevention, inspections, surveying and mapping, recognizing life and fire hazards, eliminating fire hazards, and public relations. 3 hrs. lecture/wk.

**FIRE 125**

**BUILDING CONSTRUCTION  
FOR FIRE PROTECTION (3CR)**

Students will explore how to classify buildings by occupancy and types of construction with emphasis on fire protection features including building equipment, facilities, fire-resistive materials and high-rise considerations. 3 hrs. lecture/wk.

**FIRE 130**

**FIRE INVESTIGATION (3CR)**

How to determine the cause of the 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 fire. 3 hrs. lecture/wk.

**FIRE 132**

**ARSON INVESTIGATION (3CR)**

*Prerequisites: FIRE 130*

Arson investigation techniques and procedures – including evidence preservation, interviewing and courtroom procedures – will be covered in this class for advanced students. 3 hrs. lecture/wk.

**FIRE 135**

**LIFE SAFETY CODES (3CR)**

Advanced students will study how to read and interpret codes and ordinances, especially the Life Safety Codes which are used extensively in fire prevention. 3 hrs. lecture/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 on fire sprinkler and standpipe systems. 3 hrs./wk.

**FIRE 140**

**RECOGNITION AND IDENTIFICATION  
OF HAZARDOUS MATERIALS (1CR)**

A study of the recognition of hazardous material incidents, and methods of identification of the substances involved. 2 hrs. lecture/lab wk.

**FIRE 143**

**PROPERTIES AND CHARACTERISTICS  
OF HAZARDOUS MATERIALS (1CR)**

*Prerequisite: FIRE 140*

A study of the general properties and characteristics of hazardous materials. 2 hrs. lecture/lab wk.

**FIRE 145**

**FIRE DEPARTMENT INITIAL RESPONSE –  
HAZARDOUS MATERIALS (1CR)**

*Prerequisite: FIRE 143*

A study of the techniques and methods initially employed by the fire department to manage hazardous materials incidents. 2 hrs. lecture/lab wk.

**FIRE 150**

**INTRODUCTION TO FIRE SCIENCE (3CR)**

Topics include career opportunities, history of fire protection, fire loss analysis, public, quasi-public and fire protection services, specific fire protection functions, fire chemistry and physics. 3 hrs. lecture/wk.



**FIRE 159****FIRE SERVICE HYDRAULICS (4CR)**

A study of hydraulic principles and formulas. Hydraulic experiments emphasize fire service applications. 5 hrs./wk.

**FIRE 160****FIRE APPARATUS AND EQUIPMENT (3CR)**

Fire apparatus design, specifications, capabilities and use in emergencies will be discussed. 3 hrs. lecture/wk.

**FIRE 162****FIRE TACTICS AND STRATEGY (3CR)**

Fire control through manpower, equipment and extinguishing agents will be explored in this second-year course. 3 hrs. lecture/wk.

**FIRE 169****RESCUE TECHNIQUES (4CR)**

A study of rescue techniques. The student discusses and participates in simulated rescue situations.

**FIRE 170****SPRINKLER AND STANDPIPE SYSTEMS (3CR)**

This advanced course explains the types of sprinkler and standpipe systems used in fire protection and how they operate. 3 hrs. lecture/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 on identifying and using equipment safely. This course meets NFPA 1001 minimum qualifications for Fire Fighter I certification. 3 hrs. lecture, 3 hrs. lab/wk.

**FIRE 220****MUNICIPAL FIRE ADMINISTRATION (3CR)**

Techniques and methods used in managing fire departments will be explored in this second-year class including budgeting processes, administrative functions and types of political systems which affect a fire department. 3 hrs. lecture/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 in this class for advanced students. 3 hrs. lecture/wk.

**FIRE 224****EMERGENCY****MANAGEMENT OPERATIONS (3CR)**

Disaster control, disaster management, communications for disaster management and types of disasters will be covered in this class. This is a course in basic incident command. 3 hrs. lecture/wk.

**FIRE 250****FIRE SERVICE****INSTRUCTIONAL METHODOLOGY (5CR)**

*Prerequisite: division director approval*

This course is designed to provide a potential fire service instructor with the instructional skills and knowledge necessary to develop, conduct, and evaluate formalized training courses. This course meets NFPA 1041, Standard for Fire Service Instructor Professional Qualifications, at Instructor Level II. 5 hrs. lab/wk.

**FIRE 281****DIRECTED STUDIES****FOR THE FIRE SERVICE (1-2CR)**

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 report the results of the research in a written report, reflecting the recognized form and style of writing. By arrangement.

**FOREIGN LANGUAGE****FL 120****ELEMENTARY GERMAN I (5CR)**

This course presents the sounds, vocabulary and basic structural patterns of German, focusing on the development of listening comprehension, speaking, reading, and writing skills. Cultural material is 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 continues 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 continues the presentation of the material introduced in ELEMENTARY SPANISH I. Graded reading selections are 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 include vocabulary building, grammar study, conversation, and an introduction to French culture and civilization. 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 conversations. 5 hrs./wk.

**FL 150****ELEMENTARY RUSSIAN I (5CR)**

In this course, students will study the sounds, vocabulary, and basic structural patterns of Russian. 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 Elementary Russian I*

Completes 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 220****INTERMEDIATE GERMAN (3CR)**

*Prerequisite: FL 121 or two years of high school German*

This class emphasizes 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****ADVANCED GERMAN (3CR)**

*Prerequisite: FL 220 or three years of high school German*

This class further expands 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 230****INTERMEDIATE SPANISH (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 includes composition and conversation. 3 hrs./wk.

**FL 231****ADVANCED SPANISH (3CR)**

*Prerequisite: FL 230 or three years of high school Spanish*

Extensive study of Hispanic literature is included in this class along with advanced reading and grammar review. 3 hrs./wk.

**FL 240  
INTERMEDIATE FRENCH (3CR)**

*Prerequisite: FL 141 or two years of high school French*

Students will work on building vocabulary and comprehension and increasing speaking ability. Emphasis is on conversation and composition. A grammar review of ELEMENTARY FRENCH I and II also is included. 3 hrs./wk.

**FL 241  
ADVANCED FRENCH (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 grammar review, conversation, and composition are 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 life situations and current events are discussed in class. 2 hrs./wk.

**FL 298  
FRENCH CULTURE AND CIVILIZATION (3CR)**

In this travel-for-credit course to France, students will experience French culture as they visit Paris and most of the sites and places of historical significance in France. Summer.

**HEALTH, PHYSICAL  
EDUCATION & RECREATION**

**HPER 100  
BASKETBALL (BEGINNING)(1CR)**

Students will have an opportunity to learn the skills which are fundamental to playing basketball through both demonstration and discussion of the strategies which are necessary for team play. Emphasis will be placed upon 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 which are 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 and serve 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 are the focus of this class. Emphasis is 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 provide students with the opportunity to learn the fundamental skills and strategies of wheelchair basketball. Emphasis will be placed on the development of the basic skills of dribbling, passing, shooting, rules, and team play. 4 hrs. lecture, 4 hrs. lab/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 have an opportunity to learn the basic skills, techniques and strategies which are fundamental to individual and team play performance. 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 emphasizing the identification and correction of mistakes and poor habits in approach. 2 hrs./wk.

**HPER 130  
RUNNING AWARENESS AND EXERCISE (1CR)**

Cardiovascular fitness can be improved in this course. Topics include the proper mechanics of running and training, exercise benefits, fitness programs, warm-ups and cool-downs. 2 hrs./wk.

**HPER 134  
WEIGHT TRAINING (BEGINNING)(1CR)**

Muscular strength and endurance will be developed in this class. A directed workout program will be implemented. 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. 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 can 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 145  
CHEERLEADING (BEGINNING)(1CR)**

This class focuses on working together, timeout cheers, chants for sideline cheers and pom pom routines. Cheerleaders will represent the college at community activities. 4 hrs./wk. October-March.

**HPER 147  
CHEERLEADING (INTERMEDIATE)(1CR)**

*Prerequisite: HPER 145*

Cheerleaders will make up original cheers and present them to the group. They also will work with the instructor in planning and coordinating activities. 4 hrs./wk. October-March.

**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 are performed at a faster pace for a longer period of time than in Rhythmic Aerobics (Beginning). 1 hr. lecture, 1 hr. lab/wk.

**HPER 155  
BALLET (BEGINNING)(1CR)**

The fundamentals of ballet will be introduced as well as 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 160  
ICE SKATING (BEGINNING)(1CR)**

Students will study the fundamental skills and techniques of ice skating. 2 hrs. lab/wk.

**HPER 162  
TEACHING ELEMENTARY DANCE (2CR)**

Upon the completion of this course, students should be able to organize and develop a dance program within a primary level physical education curriculum. Proper class formation, body position, kinetic awareness, count sequences, and movement combinations are some of the topics which will be covered. Students will also have the opportunity to participate in creating class activities, to analyze the components of the activities, and to create their own. 3 hrs./wk.

**HPER 163  
BALLROOM DANCE (BEGINNING)(1CR)**

An introduction to Ballroom Dance with emphasis on basic patterns and fundamental steps in 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 (BEGINNING) (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 (INTERMEDIATE) (1CR)**

*Prerequisite: HPER 165*

Students will put the techniques of karate to practice in this class which also covers combination and defense techniques. 2 hrs./wk.

**HPER 170  
WRESTLING (1CR)**

This class offers individualized instruction in the rules, fundamentals and history of wrestling. Practice area scheduled by arrangement.

**HPER 172  
TRACK AND FIELD (BEGINNING)(1CR)**

An 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 placed on both discussion and demonstration. 2 hrs./wk.

**HPER 174  
COACHING & 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. lecture/wk.

**HPER 175  
FENCING (1CR)**

This class offers individualized instruction in the rules, fundamentals and history of fencing. 2 hrs./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  
PLYOMETRICS (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, these drills 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. 3 hr. lecture/wk.

**HPER 197  
PLYOMETRICS (INTERMEDIATE)(1CR)**

*Prerequisite: HPER 194*

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 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 200  
FIRST AID CPR (2CR)**

This class will cover cause, prevention and first aid care of common emergencies. American Red Cross certification can 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 for 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 208  
PHYSIOLOGY OF LIFETIME FITNESS (3CR)**

An 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 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 flag football, volleyball, soccer, softball, track, swimming/diving, weightlifting and wrestling 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 which provide recreational services. 3 hrs./wk.

**HPER 224  
OUTDOOR RECREATION (3CR)**

The history and development of trends in outdoor recreation. The course also contains 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 put on the common and distinguishing features of recreation leadership. Students will develop guiding principles for their 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 would include planning areas and facilities, personnel management, recreational financing and leadership. 3 hrs./wk.

**HPER 240  
LIFETIME FITNESS (1CR)**

A study of the various components of total lifetime fitness and the implications for each of lifelong health and fitness. Lectures and laboratory sessions will be centered on practical knowledge and experiences designed to help each person incorporate various types of physical activity into their lifestyle for both health and recreation. The topics discussed include exercise and the heart, exercise and weight control, tension and relaxation, fads and fallacies in physical fitness and aerobics. 2 hrs./wk.

**HPER 245  
ELEMENTARY PHYSICAL EDUCATION (3CR)**

Elementary teachers will work on planning and evaluating physical education programs for their students. The class covers basic skills development and locomotion patterns, the nature of play and elementary physical education curriculum planning. 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 I (HIP) (3CR)**

Students will work on basic skills in written communication including sentence structure, the system of language and 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, emphasis is on the areas leading to 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 is 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 students need to become part of the mainstream in college including study habits, money management and employer-employee relationships. Also included will be an introduction to college facilities and support services, career exploration and clarification of personal values. 3 hrs./wk.

**HRIM 107  
SPEECH THERAPY (3CR)**

This program is designed to meet the student's needs. It will cover communication disorders related to hearing loss, disfluency, resonance, voice and articulation problems. 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 emphasizes 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 is on reading comprehension and vocabulary development through selected readings. Line 21 decoder, discussion and vocabulary building. 3 hrs./wk.

**HRIM 115**  
**FUNDAMENTALS OF MATH (HIP) (3CR)**

This class focuses on a review of fractions, decimals and whole numbers, numeration, practical applications of percent, dimensions and linear equations. 3 hrs./wk.

**HRIM 121**  
**BASIC MANUAL COMMUNICATIONS (3CR)**

In this course on Basic American Sign Language (ASL) and Pidgin Signed English (PSE), 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 (ASL) and Pidgin Signed English (PSE) emphasizes signed vocabulary in context, body and facial grammatical markers, and facial expressions. 3 hrs./wk.

## **HISTORY**

**HIST 120**  
**LOCAL AND KANSAS HISTORY (3CR)**

In this course on the development of local community life from 1850 to the present, students first will study the Indian population in Kansas in 1850. Next they will study the coming of the settlers and the development of their communities. Also examined will be how Kansas communities grew and how they reflected national trends. Speakers will be featured in class and a project required. 3 hrs. lecture/wk.

**HIST 125**  
**WESTERN CIVILIZATION:**  
**READINGS AND DISCUSSION I (3CR)**

Students will consider major ideas in Western civilization dealing with man's relationship to the environment and speculations about the nature of God. Students will read the works out of class and take part in small group discussions every other week.

**HIST 126**  
**WESTERN CIVILIZATION:**  
**READINGS AND DISCUSSION II (3CR)**

Major ideas in Western civilization dealing with social, economic, political and ethical relations will be explored. Students will read the works out of class and take part in small group discussions every other week.

**HIST 130**  
**EUROPEAN HISTORY FROM 1750 (3CR)**

Major trends in Europe from the period of the Industrial Revolution through today will be examined. Topics include industrialization, nationalism and World Wars I and II. 3 hrs./wk.

**HIST 135**  
**EASTERN CIVILIZATION (3CR)**

An introduction to the societies and cultures of Asia. Through lectures, readings and discussions, the course focuses on aspects of the history, politics, art, literature and economics of China, Japan and India. The major traditional themes and concepts of these civilizations are stressed. 3 hrs./wk.

**HIST 140**  
**U.S. HISTORY TO 1877 (3CR)**

This survey course in U.S. history emphasizes developments and trends in American society from the early period of discovery and settlement through Reconstruction. Topics 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. Emphasis is placed on analysis and interpretation of these developments. 3 hrs./wk.

**HIST 141**  
**U.S. HISTORY SINCE 1877 (3CR)**

This survey course emphasizes developments and trends in American society from the 1870s to the late 20th century. Topics include the Reconstruction era, industrialization, immigration, reform movements, World Wars I and II, social and cultural trends, and foreign policy. Emphasis is placed on analysis and interpretation of these developments. 3 hrs./wk.

**HIST 160**  
**MODERN RUSSIAN HISTORY (3CR)**

This course focuses 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.

## **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.



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**HMEC 142****HOME MANAGEMENT (3CR)**

A systems approach to management, especially of the dual-career family, will be examined. Topics include goal setting, planning, decision making and the management of time, energy and money. 3 hrs./wk.

**HMEC 151****NUTRITION AND MEAL PLANNING (3CR)**

Emphasis will be on basic food groups – their use in meal planning, their functions and their nutritional values. Current trends in eating, diet and exercise as well as fad diets and life cycle nutritional needs will be considered. Students will evaluate their own diets. 3 hrs./wk.

**HONORS PROGRAM****HON 205****HONORS FORUM:  
IN SEARCH OF SOLUTIONS (3CR)**

This course will focus on a current issue which affects the local, national and global communities. It will emphasize both specific content and skill development in the areas of interaction, analysis, synthesis and conflict resolution. As points of view concerning the issue are developed, students will be required to articulate and defend them as they are challenged by others, thereby making judgements among alternative options. 3 hrs./wk in addition to attendance of 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 in 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)**

This is an overview of the organization of the food service and public lodging industries and departmental functions, positions of the industries in the American economic system and functions and limitations of the types of establishments. 3 hrs./wk.

**HMGT 123****BASIC FOOD PREPARATION (3CR)**

In this career-specific course of basic food preparation in the hospitality industry topics include quantity food preparation, grilling, frying, broiling and sauteing, use and maintenance of equipment, duties performed at each station and meat cuts, basic salad dressings and sauces. 3 hrs./wk.

**HMGT 126****FOOD MANAGEMENT (4CR)**

*Prerequisite: HMGT 123 and admission to the Hospitality Management program*

Areas emphasized include menu planning and meal service for all phases of food service and various occasions, buffet service, French service, American service, and waiter/waitress training. Students will take part in the operation of the campus restaurant and will be involved in profit and loss statements, sales promotion and competitiveness studies. 6 hrs./wk.

**HMGT 128****SUPERVISORY MANAGEMENT (3CR)**

Basic supervisory management skills, management styles, motivation with emphasis on human relations, delegation training, evaluation and communication are among the areas covered. 3 hrs./wk.

**HMGT 130****HOSPITALITY LAW (1CR)**

An overview of product and dram shop liability, as well as the various areas of federal and state legislation which 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. 1 hr./wk.

**HMGT 219**  
**HOTEL - MOTEL OPERATIONS (3CR)**

The management of public lodging establishments will be the focus of this course. Topics include 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*

Food service design – including the menu, the location and the type of clientele expected – will be studied in detail. Topics include layout, design and equipment specifications. 3 hrs./wk.

**HMGT 223**  
**FUNDAMENTALS OF BAKING (3CR)**

Topics include ingredients, measurements, mixing, proofing, baking and final presentation. Students also will study various types of baking equipment. Class includes lecture and participation. 3 hrs./wk.

**HMGT 226**  
**FOOD SPECIALTIES –  
GARDE-MANGER (3CR)**

*Prerequisite: HMGT 123*

This course covers soups, stocks, sauces, garde-manger section, chafroid pieces, buffets, and ice carving. 3 hrs./wk.

**HMGT 228**  
**ADVANCED  
HOSPITALITY MANAGEMENT (3CR)**

*Prerequisites: HMGT 121, HMGT 123, HMGT 128, HMGT 274*

Students will have the opportunity to apply their skills in menu planning, food service, supervision, design and beverage control. This class focuses on managerial responsibility. 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. Students will study secondary sauces as well as the entire area of American regional cuisine. The course consists of lecture, demonstration and participation in food preparation. 3 hrs./wk.

**HMGT 231**  
**ADVANCED FOOD PREPARATION (4CR)**

*Prerequisites: HMGT 230 and HMGT 126*

Students with intermediate food skills can concentrate on the advanced skills necessary for preparing international cuisine. 4 hrs./wk.

**HMGT 240**  
**ADVANCED BAKING (4CR)**

*Prerequisites: HMGT 123 and HMGT 223*

An opportunity for acquiring 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, baked and chilled desserts, sugar cooking, and display pieces. 4 hrs. lecture, lab/wk.

**HMGT 244**  
**SCHOOL FOOD  
SERVICE DEVELOPMENT (1CR)**

In a hands-on practical approach to cafeteria operations, the class will cover four areas: productivity and planning, purchasing, preparation and service. 1 hr./wk.

**HMGT 271 (3CR)**  
**HMGT 272 (2CR)**  
**SEMINAR IN  
HOSPITALITY MANAGEMENT: PURCHASING**

*Prerequisite: Admission to the Hospitality Management program*

Students will study purchasing techniques and specification writing for items used in the industry. This training takes place in a supervised work situation in an approved area of hospitality industry. 2 hrs. class, 15 hrs. minimum of on-the-job training/wk. By arrangement.

**HMGT 273 (3CR)**  
**HMGT 274 (2CR)**  
**SEMINAR IN  
HOSPITALITY MANAGEMENT: ACCOUNTING**

*Prerequisite: Admission to the Hospitality Management program*

This training takes place in a supervised work situation in an approved area of the hospitality industry. Students will prepare operation statements for food service operators, inventories and control systems. Areas of concentration will be food cost controls, labor cost controls and profit production. 3 hrs./wk.

**HMGT 275**  
**SEMINAR IN HOSPITALITY**  
**MANAGEMENT INTERNSHIP (3CR)**

*Prerequisite: Admission to the Hospitality Management program*

This class consists of supervised work experience in an approved area of the hospitality field. By arrangement. Summer.

**HMGT 277 (3CR)**  
**HMGT 278 (2CR)**  
**SEMINAR IN MENU**  
**PLANNING AND SALES PROMOTION**

*Prerequisite: HMGT 123*

This course covers menu planning for every type of service and facility. Topics include menu layout, selection and development, price structures, and the theory of menu design. 2 hrs. class, a minimum of 15 hrs. on-the-job training by arrangement/wk.

**HMGT 279**  
**BEVERAGE CONTROL (3CR)**

In this course on beverage control in all types of operations, topics include history of wines, their use and storage procedures. Students 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 chef will supervise this on-the-job apprentice training. Students will study and apply food preparation and presentation techniques, gaining 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 begins with a look at artistic and technical elements of several art forms including painting, music and drama. Major themes these art forms express also are examined. 3 hrs./wk.

**HUM 133**  
**COMPARATIVE CULTURES (3CR)**

Traces the development of the humanities in classical Greece, Medieval Europe, and a selected Asian culture. 3 hrs./wk.

**HUM 144**  
**INTRODUCTION TO ART HISTORY (3CR)**

This historical study of art traces its development from prehistoric times to the 18th century. 3 hrs./wk.

**HUM 147**  
**MODERN ART HISTORY (3CR)**

In this advanced art history course, students will study 18th, 19th and 20th century American and European art. 3 hrs./wk.

**HUM 155**  
**CLASSICAL MYTHOLOGY (3CR)**

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 include both literature and the visual arts. 3 hrs./wk.

**HUM 297**  
**CLASSICAL GREECE (3CR)**

Study of classical Greek culture and its beginnings in the Minoan/Mycenaean period. Fifteen hours of classroom study will explore the architectural and artistic treasures of ancient Greece. Students will visit major archaeological sites and museums in Greece. Class meets for one hour of lecture each week and fifteen travel days. Three credit hours.

## **INFORMATION/ WORD PROCESSING**

### **IWP 121 WORD PROCESSING APPLICATIONS I (3CR)**

*Prerequisite: SEC 122*

This is an introduction to the basic function of shared logic word processing and stand-alone equipment utilizing WANG word processing software. Students will be required to schedule lab time each week. 3 hrs. lecture, 2 hrs. lab/wk.

### **IWP 131 WORD PROCESSING CONCEPTS (3CR)**

This is an introduction to the terminology and procedures common to word processing systems in an organization. The operations, applications and administration of word processing will be discussed. 3 hrs. lecture/wk.

### **IWP 132 WORD PROCESSING APPLICATIONS II (3CR)**

*Prerequisite: IWP 121*

Word Processing Applications II is designed to enhance the students' ability to perform basic functions – key-boarding, editing, storage and retrieving – and to introduce them to advanced functions on shared logic and stand-alone word processing equipment utilizing WANG word processing software. In addition to three hours lecture each week, students will be required to schedule lab time.

### **IWP 241 WORD PROCESSING DIRECTED EXPERIENCE I (1CR)**

*Prerequisite: IWP 121*

Designed to give students the opportunity to apply the skills they have acquired in Word Processing specialty courses. Students will work in approved training situations under instructional supervision. Class meets by arrangement.

### **IWP 250 WORD PROCESSING DIRECTED EXPERIENCE II (1CR)**

*Prerequisite: IWP 241*

Designed to give students the opportunity to apply the skills they have acquired in Word Processing specialty courses. Students will work in approved training situations under instructional supervision. Class meets by arrangement.

## **INTERIOR MERCHANDISING**

### **ITMD 121 INTERIOR DESIGN I (3CR)**

This basic course in interior design emphasizes the elements and principles of design, color and color theory and the practical application of materials in today's home. 3 hrs./wk.

### **ITMD 122 INTERIOR DESIGN II (3CR)**

*Prerequisite: ITMD 121, DRAF 261 Graphic communications for interior design*

Students with basic interior design skills have the opportunity to increase and apply their knowledge in this class. 3 hrs./wk.

### **ITMD 132 INTERIOR PRODUCTS (3CR)**

This is an in-depth study of the materials used in interiors. Areas covered include floors, wall and window coverings, and furniture. Students also become familiar with new trends and ideas in housing through field trips and observations. 3 hrs./wk. Spring.

### **ITMD 133 HISTORY OF FURNITURE DESIGN I (3CR)**

Study of history of interior design and furniture design from antiquity through the Middle Ages into the Renaissance period. Emphasis on furniture design and ornamentation while considering other interior elements and influencing factors related to specific art periods. 1 hr./wk. Fall.

### **ITMD 140 DRAPERIES, TREATMENTS AND CONSTRUCTION (1CR)**

*Prerequisite: ITMD 121*

A concentrated study of window treatments and drapery construction. Textiles, selection techniques, and practical applications will be emphasized. 1 hr. lecture/wk.

### **ITMD 145 UPHOLSTERY CONSTRUCTION (1CR)**

*Prerequisite: ITMD 121*

A concentrated study of upholstery. Textiles, frame construction and selection techniques, and practical applications will also be covered, both in the classroom and in an upholstery workroom. 1 hr. lecture/wk.

**ITMD 223  
CONTRACT DESIGN (3CR)**

*Prerequisite: ITMD 122*

Study in the field of interior merchandising concentrating on the solutions of problems encountered in contract design. Students will be assigned five problems each semester. 1 hr. lecture/wk., 3 hrs. lab/wk. Fall.

**ITMD 224  
BARRIER-FREE DESIGN (3CR)**

*Prerequisite: ITMD 122*

Advanced study of interior design as it relates to physically disabled persons and their home and community environments. 1 hr. lecture/wk., 3 hrs. lab/wk. Spring.

**ITMD 231  
HISTORY OF FURNITURE DESIGN II (3CR)**

*Prerequisite: ITMD 133*

Continuation of the history of interior design and furniture design beginning with Baroque Italy and continuing through Modern America. Emphasis on furniture design and ornamentation as related to other interior elements and influencing factors related to specific art periods. 3 hrs./wk. Spring.

**ITMD 234  
KITCHEN PLANNING AND DESIGN (1CR)**

*Prerequisite: DRAF 261 and ITMD 121*

Upon successful completion of this course, the student should be able to measure existing kitchens for remodeling, design functional and aesthetic kitchens, use architectural symbols and kitchen design language appropriately, and design and draft kitchens for new homes. 1 hr./wk.

**ITMD 273 (2CR)  
INTERIOR MERCHANDISING SEMINAR:  
PRACTICES AND PROCEDURES**

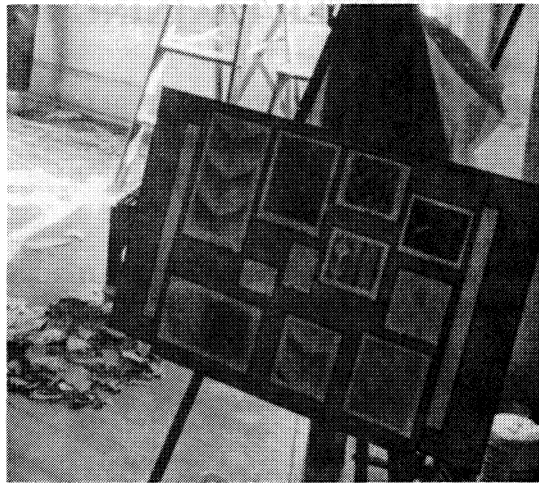
*Prerequisite: ITMD 121*

Students will study interior product business formations, contracts, papers and procedures necessary for effective business management. Class also includes discussion of job opportunities and business ethics. 2 hrs. class. Fall.

**ITMD 275 (2CR)  
INTERIOR MERCHANDISING SEMINAR:  
BUDGET AND ESTIMATING**

*Prerequisite: ITMD 121*

Focus will be on residential and commercial jobs requiring specification writing and cost control with emphasis on accurately measuring materials and figuring actual costs. 2 hrs. class. Spring.



**ITMD 282  
INTERIOR  
MERCHANDISING PRACTICUM I (1CR)**

*Prerequisite: ITMD 121*

Designed to give students the opportunity to apply the skills they have acquired in Interior Merchandising specialty courses. Students will work in approved training situations under instructional supervision. Class meets by arrangement. A minimum of 15 hrs. on-the-job training/wk.

**ITMD 284  
INTERIOR  
MERCHANDISING PRACTICUM II (1CR)**

*Prerequisite: ITMD 121*

Designed to give students the opportunity to apply the skills they have acquired in Interior Merchandising specialty courses. Students will work in approved training situations under instructional supervision. Class meets by arrangement. A minimum of 15 hrs. on-the-job training/wk.

**ITMD 295  
FIELD STUDY:  
MARKETING AND MANAGEMENT (3CR)**

*Prerequisite: ITMD 121 and approval of program coordinator*

With an emphasis on various methods of wholesale and retail marketing to the wholesale buyer in both the Kansas City area and in a major market area, this travel for credit course will explain manufacturing processes in upholstery and casegoods. The students will compare, contrast and evaluate these presentation methods and manufacturing techniques with visits to manufacturing plants, a market showroom and a merchandise mart in a major market city. Summer.

## INTERPRETER TRAINING

### **INTR 110 CONVERSATIONAL SIGNED ENGLISH I (2CR)**

An introduction to signed English, this class will lead students toward the development of basic conversational skills. 4 hrs. lab/wk.

### **INTR 111 CONVERSATIONAL SIGNED ENGLISH II (2CR)**

*Prerequisite: INTR 110*

This course offers a continued development of signed English skills, leading toward the development of conversational skills. 4 hrs. lab/wk.

### **INTR 115 CONVERSATIONAL ASL I (2CR)**

This is an introduction to American Sign Language, leading toward 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)**

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 include interpersonal skills, professional ethics, parameters of responsibilities of the interpreter, 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 (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 (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 (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 focuses 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 division director and proficiency in ASL.*

Students will study the many English equivalents for ASL discourse, enhancing the written English skills of deaf students and 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 is 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 continued English-to-ASL, ASL-to-English and transliteration skills development. Students will have the opportunity to use these skills as they role-play employment situations. 2 hrs. lecture/wk., 8 hrs. lab/wk.

**INTR 261  
SPECIAL TOPICS (1-8CR)**

*Prerequisite: Depends on topics*

Current trends and topics in interpreting is 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 1-4 hours depending on topic and 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 per semester. 6 hrs. lab, field work/wk.

**INTR 291  
INDEPENDENT STUDY:  
INTERPRETER TRAINING (1-3CR)**

*Prerequisite: Approval of division director*

Students will take part in directed independent study focusing on areas relating to special interpreting situations, forms of communication and current issues in the hearing impaired field. 1-3 hrs./wk. Course may be repeated. No more than 6 hours credit may be accrued.

**JOURNALISM AND  
MEDIA COMMUNICATIONS**

**JOUR 120  
MASS MEDIA AND SOCIETY (3CR)**

Mass communication – its content, structure, persuasive influence, responsibilities and problems – will be explored. Focus will be on television, radio, newspapers, magazines, public relations and advertising. 3 hrs./wk.

**JOUR 122  
INTRODUCTION TO NEWS WRITING (3CR)**

*Prerequisite: Basic typing skills or concurrent enrollment in SEC 110.*

Students will concentrate on news writing, news style preparation and developing interviewing skills in this class. They will also gain practical experience by writing stories for the campus newspaper. 3 hrs./wk.

**JOUR 125  
FUNDAMENTALS OF ADVERTISING (3CR)**

How advertising affects today's businesses and consumers and the forms of advertising and media involved will be the focus of this class. 3 hrs./wk.

**JOUR 127  
INTRODUCTION TO BROADCASTING (3CR)**

Radio and television broadcasting will be introduced in this class. Among the areas students will examine are program formats, personnel, equipment and FCC regulations. 3 hrs./wk.

**JOUR 130  
PRINCIPLES OF PUBLIC RELATIONS (3CR)**

This is a survey course with primary emphasis on theory, practice and criticism, supplemented with exercises in application of public relations techniques. Discussions will center upon tools and media used in communicating with the public. 3 hrs. lecture/wk.

**JOUR 222  
NEWS REPORTING AND EDITING (3CR)**

*Prerequisite: JOUR 122*

This class includes an examination of how news is gathered, written and published and a study of specialized reporting. Students will gain practical experience as they write stories for the campus newspaper. 3 hrs./wk. Spring.

**JOUR 225  
ADVERTISING COPYWRITING (3CR)**

Students will study the principles of copywriting and put them to practice by developing copy for a variety of products. Each student will prepare an advertising campaign. 3 hrs./wk.

**JOUR 271  
JOURNALISM FIELD STUDY (1-3CR)**

*Prerequisite: Approval of division director*

Under staff supervision, the student will work at an approved training center. Emphasis will be on applying writing or production techniques in such fields as news-writing, advertising and television. 2 hrs. class, a minimum of 5-15 hrs. on-the-job training by arrangement/wk.

## **MANUFACTURING TECHNOLOGY**

**MFTG 110  
INTERPRETING  
ELECTRICAL DRAWINGS (2CR)**

Methods of visualizing and interpreting views and dimensions of basic engineering drawings; interpretation of electrical symbols, types of circuits, and motor control diagrams.

**MFTG 112  
HYDRAULICS I (2CR)**

*Prerequisite: MATH III*

This self-paced course has been designed to teach students a basic understanding of hydraulic components, circuits, symbols, systems, maintenance and troubleshooting. Laboratory exercises will provide students with hands-on experience of hydraulics. 3 hrs. lecture, lab/wk.

**MFTG 114  
PNEUMATICS I (2CR)**

*Prerequisite: MATH III*

This self-paced course has been designed to teach students a basic understanding of pneumatic components, circuits, symbols and troubleshooting. Topics will include the mechanics of air flow and the treatment of compressed air. Laboratory exercises will provide students with hands-on experience of pneumatics. 3 hrs. lecture, lab/wk.

**MFTG 116  
INDUSTRIAL ELECTRONICS I – DC (2CR)**

*Prerequisite: MATH III*

Direct current and voltage will be described including the structure of matter, conductivity, charges and charged bodies. A description of resistors, resistor color code, circuit symbols and an introduction to schematics will also be included. This self-paced course will also introduce students to the volt-ohm-meter and will include discussion of series, parallel and series-parallel laws. Laboratory exercises and computer assisted instruction will aid the teaching process. 3 hrs. lecture, lab/wk.





**MFTG 118  
INDUSTRIAL ELECTRONICS II – AC (2CR)**

*Prerequisite: MATH 111*

This self-paced course will introduce students to sine waves, covering capacitors and inductors, capacitive and reactive inductance, transformer descriptions, various AC circuits and calculations associated with these circuits. Topics will also include RC, RL, and RCL circuit configurations and calculations, troubleshooting of these various circuits, and resonance and resonant circuits. 3 hrs. lecture, lab/wk.

**MFTG 120  
INDUSTRIAL  
ELECTRONICS III – CIRCUITS (2CR)**

Students will have the opportunity to learn the names and functions of basic electronic components and use basic testing equipment to measure the performance of these components. The names and functions of common electronic circuits and their practical application will be studied. 3.5 hrs. alternative delivery/wk.

**MFTG 121  
MANUFACTURING  
PROCESSES AND TESTING (3CR)**

This is an overview of manufacturing materials, processes and testing procedures used in industry. Students will examine the capabilities of press shop, machine tool, general fabrication, welding processes, robotics, cut-off equipment and other manufacturing processes and equipment. Destructive and non-destructive testing methods will be demonstrated. 3 hrs. lecture-demonstration/wk.

**MFTG 122  
ROBOTICS (2CR)**

The basic concepts of operating and maintaining industrial robots will be covered. Class lecture will cover such topics as classification of robots, servo-control, off-line programming and factors of alienation. Comparisons of servo vs. non-servo, electric vs. hydraulic vs. pneumatic, and various kinds of robots will be made. 1 hr. lecture, 2 hrs. self-paced instruction per week in technology.

**MFTG 123  
CURRENT NUMERICAL  
CONTROL CONCEPTS (2CR)**

An introduction to techniques in manufacturing technology used with numerically controlled machine tools. Advantages and disadvantages of numerical control (NC), computer NC, and direct NC techniques will be emphasized. Such terms as CAD (Computer Aided Design), CAM (Computer Aided Manufacturing), CIM (Computer Integrated Manufacturing) and FMS (Flexible Manufacturing Systems) will be brought into perspective as related to NC. 2 hrs. lecture/wk.

**MFTG 124  
ROBOTIC APPLICATIONS (2CR)**

*Corequisite: MFTG 122 or division director approval*  
Students will learn how to program an industrial robot. Hands-on programming in the lab will include welding, material handling and interfacing the robot with other equipment. 1 hr. lecture, 2 hrs. lab/wk.

**MFTG 125  
CNC CONTROL  
CONCEPTS AND PROGRAMMING (3CR)**

An integrated laboratory to provide instruction on the operation and programming of various numerical control equipment, students will be required to program and operate numerical control manufacturing equipment as well as develop, write, and produce programs on a desk top programmer. Project work will include part programs and exercise programs. Lectures will cover the same material as MFTG 123. 2 hrs. lecture, 2 hrs. lab/wk.

**MFTG 126  
MACHINE TOOL PROCESSES I (3CR)**

The principles and practices of machining and the set-up and operation of machines will be explained. In the lab students will use lathes, mills, drills, cut off and other types of equipment. 1 hr. lecture, 6 hrs. lab/wk.

**MFTG 128  
MACHINE TOOL PROCESSES II (3CR)**

*Prerequisite: MFTG 126 or division director approval*

The set-up and operation of conventional machine tools and Computer Numerical Controlled machine tools will be discussed in this class. Students will study and use lathes, mills, drills, CNC trainers and a CNC mill. The CNC unit will cover conversational programming and "G" code or word address programming. 1 hr. lecture, 6 hrs. lab/wk.

**MFTG 130  
MECHANISMS (2CR)**

Upon successful completion of this course, the student should be able to describe the characteristics and functions of basic mechanisms. The student should also be able to understand and identify gears, belt drive systems and the parts of various types of chain mechanisms. The types and functions of various bearings, the handling and reading of the vernier caliper and the micrometer, as well as the proper procedures for maintenance and installation of basic troubleshooting will also be covered. This course will be offered using an integration of lecture and laboratory in an alternative delivery format.

**MFTG 132  
METALLURGY (1CR)**

This basic metallurgy course deals with iron and steel, properties of metals, types of classifications, heat treatment procedures and common processes of steel. 1 hr. lecture/wk.

**MFTG 211  
INDUSTRIAL ELECTRONICS IV –  
TROUBLESHOOTING I (2CR)**

*Prerequisite: MFTG 120*

This course expands on troubleshooting electronic systems. The student will troubleshoot power supplies, linear circuits, microprocessors and peripherals. Overall troubleshooting approaches, as well as specific troubleshooting equipment, will also be covered and their appropriate use explained. 3.5 hrs. alternative delivery/wk.

**MFTG 212  
INDUSTRIAL ELECTRONICS V –  
TROUBLESHOOTING II (2CR)**

This course focuses on troubleshooting circuits to determine whether or not they are functioning properly. The student will use systems diagnosis to localize to a unit, isolate trouble to a circuit, and locate the defective component. Soldering and desoldering techniques are covered, which are necessary to remove and replace defective equipment. 3.5 hrs. alternative delivery/wk.

**MFTG 271  
MANUFACTURING TECHNOLOGY  
COOPERATIVE EDUCATION I (2-9CR)**

*Prerequisite: 10 credit hours of Manufacturing Technology courses and division director approval*

This program provides advanced students with on-the-job experience under the supervision of industrial professionals. The work experience will be developed cooperatively among area employers, college staff and the student to provide a variety of actual job experiences directly related to the student's personal career goals. 1 hr. lecture, 6-27 hrs. lab/wk.

**MFTG 272  
MANUFACTURING TECHNOLOGY  
COOPERATIVE EDUCATION II (2-9CR)**

*Prerequisite: MFTG 271 and division director approval*

This program provides advanced students with on-the-job experience under the supervision of industrial professionals. The work experience will be developed cooperatively among area employers, college staff and the student to provide a variety of actual job experiences directly related to the student's personal career goals. 1 hr. lecture, 6-27 hrs. lab/wk.

**MFTG 273  
MANUFACTURING TECHNOLOGY  
COOPERATIVE EDUCATION III (2-9CR)**

*Prerequisite: MFTG 272 and division director approval*

This program provides advanced students with on-the-job experience under the supervision of industrial professionals. The work experience will be developed cooperatively among area employers, college staff and the student to provide a variety of actual job experiences directly related to the student's personal career goals. 1 hr. lecture, 6-27 hrs. lab/wk.

## MARKETING MANAGEMENT

### **MKT 121 RETAILING (3CR)**

The organization and operation of a retail store – including location, layout, retail buying, human relations, employee supervision, pricing and merchandising – will be covered. 3 hrs./wk.

### **MKT 122 RETAIL ADVERTISING AND DISPLAY (3CR)**

In this class on advertising and display techniques, emphasis will be on media selection and use, copywriting, ad layout and illustration, showcard writing, display techniques, sales promotion, budgeting and scheduling. 3 hrs./wk.

### **MKT 133 SALESMANSHIP (3CR)**

Students will prepare presentations in specialty, wholesale and industrial areas of selling. Class includes projects, case problems and speakers. 3 hrs./wk.

### **MKT 134 CREATIVE RETAIL SELLING (3CR)**

Students will analyze the techniques of the sale in this class. Case problems will highlight such areas as sales demonstrations and presentations, handling objections and customer complaints, suggestive selling and closing the sale. 3 hrs./wk.

### **MKT 221 SALES MANAGEMENT (3CR)**

*Prerequisite: MKT 134 or MKT 133 or equivalent*

Managing the sales force is the topic of this class. Topics include recruitment and selection of salespeople, training, compensation and motivation. Sales forecasting, sales planning and ethics in different fields will be reviewed. 3 hrs./wk.

### **MKT 271 MARKETING AND MANAGEMENT SEMINAR: ORGANIZATION AND OPERATION (3CR)**

*Prerequisite: Admission to the Marketing and Management Program*

Students will work under supervision in an approved business where they will complete a series of training reports based on employers' operation policies and internal organization and structure. 2 hrs. class, a minimum of 15 hrs. on-the-job training by arrangement/wk.

### **MKT 272 MARKETING AND MANAGEMENT SEMINAR: MANAGEMENT DECISION MAKING (3CR)**

*Prerequisite: Admission to the Marketing and Management Program*

Students will work under supervision in an approved business concentrating on making managerial decisions regarding human relations and merchandising problems. They also will take part in sales and training meetings in the areas of marketing and management. 2 hrs. class, a minimum of 15 hrs. on-the-job training by arrangement/wk. Fall.

### **MKT 273 MARKETING AND MANAGEMENT SEMINAR: MARKETING RESEARCH (3CR)**

*Prerequisite: Admission to the Marketing and Management Program*

Students will work under supervision in an approved business where they will conduct market research. Students will concentrate on identifying and determining the needs of individuals and organizations. 2 hrs. class, a minimum of 15 hrs. on-the-job training by arrangement/wk. Spring.

### **MKT 274 MARKETING AND MANAGEMENT SEMINAR: MANAGEMENT (3CR)**

*Prerequisite: Admission to the Marketing and Management Program*

Students will work under supervision in an approved business. 2 hrs. class, a minimum of 15 hrs. on-the-job training by arrangement/wk.



## MATHEMATICS

### DEVELOPMENTAL COURSES

MATH 110 and MATH 115 are designed to assist students to develop basic math skills and use concepts relative to fundamental algebraic operations, fractions, graphs, etc. Successful use of these skills will enable students to enroll in college-level math courses. These courses do not fulfill degree requirements.

#### MATH 111 FUNDAMENTALS OF MATH (3CR)

*Prerequisite:* Appropriate score on math assessment test.

A course in basic math skills and concepts for those who need to improve or review their math training. The course includes computation, numeration, and mathematical applications of whole numbers, integers, fractions, decimals, percent, square roots, measurement, geometry, and linear equations. Some sections require students to use computer-assisted instruction in math lab. 3 hrs. lecture/wk.

#### MATH 115 INTRODUCTION TO ALGEBRA (3CR)

*Prerequisite:* MATH 111 or appropriate score on math assessment test.

The class will cover fundamental algebraic operations, fractions, first- and second-degree equations, graphs, exponents and radicals. Some sections are taught with self-paced computer-assisted instruction using interactive video. 3 hrs. lecture/wk.

### REGULAR COURSES

#### MATH 116 INTERMEDIATE ALGEBRA (3CR)

*Prerequisite:* MATH 115 or appropriate score on math assessment test.

Polynomials, rational expressions, exponents and radicals, equations and inequalities, graphing, relations, functions and systems of equations will be covered. 3 hrs. lecture/wk.

#### MATH 120 BUSINESS MATH (3CR)

*Prerequisite:* MATH 111 or appropriate score on math assessment test.

A course for the student who needs specific skills in math to address business problems and applications in payroll, financial analysis, interest, and money management. 3 hrs. lecture/wk.

#### MATH 122 MATHEMATICS IN OUR CULTURE (3CR)

*Prerequisite:* MATH 111 or appropriate score on math assessment test.

This is a course about the extent, power and history of many interesting areas of mathematics. Topics include mathematical reasoning and recreation, calculator activities, computer literacy, mathematics in art and music, probability, statistics and topology. 3 hrs. lecture/wk.

#### MATH 125 MATH FOR MODERN LIVING (3CR)

*Prerequisite:* MATH 111 or appropriate score on math assessment test.

A video course consisting of 34 30-minute cable TV programs with accompanying workbook/study guide and arranged sessions with instructor. The course provides a practical and relevant variety of mathematical topics such as logic, sets, equation solving, measurement, number sequences, use of calculators, graphing, computers, probability and statistics. 3 hrs. lecture/wk.

#### MATH 133 TECHNICAL MATHEMATICS I (4CR)

*Prerequisite:* MATH 111 or appropriate score on assessment test.

This course introduces the mathematical background necessary in technical work. It focuses on the basics of algebra, geometry and trigonometry and their applications. Topics include polynomials, scientific notation, proportions, variation, linear equations, graphing, systems of equations, right and oblique triangles, vectors, and complex numbers. 4 hrs. lecture/wk.

#### MATH 134 TECHNICAL MATHEMATICS II (5CR)

*Prerequisite:* MATH 133 or equivalent.

This course emphasizes technical applications of algebra and trigonometry. Topics include factoring, algebraic fractions, quadratic equations, exponents, radicals, inequalities, logarithmic and exponential functions, trigonometric graphs and identities. 5 hrs. lecture/wk.

**MATH 160**  
**ALGEBRA (3CR)**

*Prerequisite: MATH 116 or appropriate score on math assessment test*

This course covers exactly the same topics as MATH 171 College Algebra but has more class time. The topics covered include polynomials, rationals, logarithmic and exponential functions, theory of equations, systems of equations, determinants, sequences and series, and the binomial theorem. 5 hrs. lecture/wk.

**MATH 171**  
**COLLEGE ALGEBRA (3CR)**

*Prerequisite: MATH 116 or appropriate score on math assessment test*

This is a study of polynomials, rationals, exponential and logarithmic functions, theory of equations, systems of equations, determinants, sequences and series, and the binomial theorem. 3 hrs. lecture/wk.

**MATH 172**  
**TRIGONOMETRY (3CR)**

*Prerequisite: MATH 160 or 171 or appropriate score on math assessment test*

This is a study of trigonometric functions, identities, graphs, equations, inverse trigonometric functions, polar coordinates, complex numbers and applications. 3 hrs. lecture/wk.

**MATH 181**  
**STATISTICS (3CR)**

*Prerequisite: MATH 171 or appropriate score on math assessment test*

*Corequisite: DP 140*

Students will review and apply such concepts as descriptive statistics, probability, sampling, distributions, estimation, hypothesis testing, regression and correlation. 3 hrs. lecture/wk.

**MATH 190**  
**GEOMETRY (2CR)**

*Prerequisite or corequisite: MATH 115 or appropriate score on math assessment test*

This intuitive approach to geometry is for students who did not take geometry in high school. Topics include lines, polygons, area, volume, circles, similarity, congruence and coordinate geometry. 2 hrs. lecture/wk.

**MATH 231**  
**CALCULUS I (3CR)**

*Prerequisite: MATH 160 or MATH 171 or appropriate score on 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. 3 hrs. lecture/wk.

**MATH 232**  
**CALCULUS II (3CR)**

*Prerequisite: MATH 231 and MATH 172 or concurrent enrollment in MATH 172*

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 and functions of several variables. This information can be applied to business, statistics, biology and the social sciences. 3 hrs. lecture/wk.

**MATH 241**  
**ANALYTIC GEOMETRY-CALCULUS I (5CR)**

*Prerequisite: MATH 172 or appropriate score on 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 algebraic functions. 5 hrs. lecture/wk.

**MATH 242**  
**ANALYTIC GEOMETRY-CALCULUS II (5CR)**

*Prerequisite: MATH 241 or appropriate score on math assessment test*

This is the second in a three-semester sequence on analytic geometry and calculus. Emphasis on differentiation and integration of transcendental functions, polar coordinates, and applications. 5 hrs. lecture/wk.

**MATH 243**  
**ANALYTIC GEOMETRY-CALCULUS III (5CR)**

*Prerequisite: MATH 242 or appropriate score on math assessment test*

This is the third course in a three-semester sequence on analytic geometry and calculus. Topics include solid analytic geometry, vectors, partial differentiation, multiple integration, parametric equations, line integrals and infinite series. 5 hrs. lecture/wk.

**MATH 244**  
**DIFFERENTIAL EQUATIONS (3CR)**

*Prerequisite: MATH 243 or appropriate score on math assessment test*

Differential Equations covers standard types of ordinary equations, second and higher order linear equations, solutions by series, the Laplace transform and applications. 3 hrs. lecture/wk. Spring.

**MATH 281**  
**HONORS PROJECT IN MATHEMATICS (1-2CR)**

*Prerequisite: Approval of division director*

Students will work on special interest projects approved and monitored by an instructor and tailored to the abilities and interests of the student. Projects will involve computer work. 2-4 hrs. lab/wk.

**MEDICAL**  
**RECORD TECHNOLOGY**

**KMRT 151**  
**MEDICAL TERMINOLOGY**  
**FOR MEDICAL RECORDS (3CR)**

A study of the professional language of medicine. Medical terms are analyzed by learning word roots and combining forms. Disease processes along with diagnostic and operative procedures are studied as they apply to each system of the body. Selected medical specialties are also presented. 3 hrs./wk.

**KMRT 160**  
**INTRODUCTION TO THE**  
**MEDICAL RECORD PROFESSION (2CR)**

*Prerequisite: Admission to the Medical Record Technology Program*

Orientation to the medical record profession and the supporting professional organization. The history and evolution of health care delivery, health care facilities, and practitioners are examined. Supervisory functions of the medical record department are presented. 2 hrs. lecture/wk.

**KMRT 161**  
**HEALTH RECORD SYSTEMS,**  
**ANALYSIS AND CONTROLS (3CR)**

*Prerequisite or corequisite: KMRT 160 or approval of PVCC*

This course is 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 are also included. 3 hrs. lecture/wk.

**KMRT 162**  
**HEALTH STATISTICS**  
**AND RESEARCH METHODS (2CR)**

*Prerequisite: KMRT 161 or approval of PVCC*

This course is designed to instruct the student regarding vital and health statistics, their uses and values. Abstracting and analysis of data from medical records and collection from other sources is studied as well as the methods of presenting the data. 2 hrs. lecture/wk.

**KMRT 163**  
**CLASSIFICATION SYSTEMS,**  
**NOMENCLATURES, INDEXES,**  
**AND REGISTERS I (3CR)**

*Prerequisites: KMRT 151 and BIOL 144*

Study of nomenclatures and classification systems used for coding and indexing diagnoses and procedures with special emphasis on ICD-9-CM. 3 hrs. lecture/wk.

**KMRT 164**  
**QUALITY ASSURANCE (3CR)**

*Prerequisite: KMRT 169*

Quality assurance requirements of regulatory agencies are emphasized as well as methodology in assessing quality of care. 3 hrs. lecture/wk.

**KMRT 166**  
**CLINICAL EDUCATION I (2CR)**

*Prerequisite: KMRT 161*

Supervised learning experience in a medical record department under the direction of an RRA or ART. A one-hour seminar is included for the supervised discussion of clinical experiences. Didactic material is reinforced by the performance of basic medical record department functions. 8 hrs. clinic arranged.

**KMRT 167**  
**CLINICAL EDUCATION II (2CR)**

*Prerequisite: KMRT 166*

Supervised learning experience in a medical record department under the direction of an RRA or ART. Experience in a variety of procedures including coding and abstracting health information, medical transcription, and release of information. A one-hour seminar is included for the supervised discussion of clinical experiences. 8 hrs. clinic arranged.

**KMRT 168  
CLINICAL EDUCATION III (2CR)**

*Prerequisite: KMRT 167*

Supervised learning experiences in a medical record department of a specialized health care facility under the direction of an RRA or ART. Procedures related to quality assurance and specialized health record systems are performed. A one-hour seminar is included for the supervised discussion of clinical experiences. 8 hrs. clinic arranged.

**KMRT 169  
LEGAL ASPECTS  
OF MEDICAL REPORTS (2CR)**

*Prerequisite: KMRT 161*

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 are studied. 2 hrs. lecture/wk.

**KMRT 175  
SPECIALIZED HEALTH  
RECORD SYSTEMS (3CR)**

*Prerequisite: KMRT 161*

An overview of specialized health care systems with an emphasis on record maintenance, requirements of accrediting and regulating agencies, and specialized health information registers. 3 hrs. lecture/wk.

**KMRT 180  
CLASSIFICATION SYSTEMS,  
NOMENCLATURES, INDEXES,  
REGISTERS II (3CR)**

*Prerequisite: KMRT 163*

Continuation of Classification Systems I with emphasis on coding systems for specialized health care facilities and the impact of DRGs on the coding function of medical record departments. 3 hrs. lecture/wk.

**KMRT 184  
MEDICAL TRANSCRIPTION (3CR)**

*Prerequisite: KMRT 151 and typing 40 WPM*

An introduction to the transcription of medical record reports using correct terminology, punctuation, and format. 3 hrs. lab/wk.

## **METAL FABRICATION**

**MFAB 121  
INTRODUCTION TO WELDING (3CR)**

This is a beginning course in 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 fillet welds. All welds will be tested according to industry standards. 1 hr. lecture, 6 hrs. lab/wk.

**MFAB 125  
ADVANCED GAS AND ARC WELDING (3CR)**

*Prerequisite: MFAB 121 or approval of division director*

Focus is on the theory and practice of out-of-position oxy-fuel welding, 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 being performed according to industry standards. 1 hr. lecture, 6 hrs. lab/wk.

**MFAB 130  
MIG AND TIG I (3CR)**

*Prerequisite: MFAB 121 or approval of division director*

Students will explore 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, students will use welding symbols, read blueprints and test welds. 1 hr. lecture, 6 hrs. lab/wk.

**MFAB 140  
INTRODUCTION TO  
METAL FABRICATION (3CR)**

Students will have the opportunity to learn basic welding procedures, sheet metal work and other metal trades and how they interrelate with other technologies. They also will study how to safely handle materials, the compatibility of materials, and finish methods and how they work. 1 hr. lecture, 6 hrs. lab/wk.

**MFAB 230  
MIG AND TIG II (3CR)**

*Prerequisite: MFAB 130 or approval of division director*

This is a review of the theory of GMAW and GTAW, GTAW on stainless steel, flux corded arc welding (FCAW) on steel, GMAW on aluminum and GMAW on steel. 1 hr. lecture, 6 hrs. lab/wk.

## MUSIC

### **MUS 121 INTRODUCTION TO MUSIC LISTENING (3CR)**

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. 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 (2CR)**

The fundamentals of music will be reviewed and melodic line construction, triads and the connection of chords in four-part music writing will be introduced. 2 hrs./wk.

### **MUS 142 MUSIC THEORY: HARMONY II (2CR)**

*Prerequisite: MUS 141*

Students will continue their work with melodic line, triads and connection of chords in four-part music writing. Emphasis will be on inverted triads and seventh chords. Elementary modulation will be introduced. 2 hrs./wk.

### **MUS 143 MUSIC THEORY: HARMONY III (2CR)**

*Prerequisite: MUS 142*

Students will continue working with modulation, nonharmonic tones and inverted triads in four-part music writing. The class introduces less common chord progressions, diatonic seventh chords, altered chords and borrowed chords with emphasis on original student composition. 2 hrs./wk.

### **MUS 144 MUSIC THEORY: HARMONY IV (2CR)**

*Prerequisite: MUS 143*

Students will continue working with original compositions in this introduction to augmented triads; Neapolitan, French and German sixth chords; chords at ninth, eleventh, thirteenth; advanced modulation and basic counterpoints. 2 hrs./wk.

### **MUS 151 MIXED VOCAL ENSEMBLE I (1CR)**

Any student may participate in this class involving rehearsal and performance of vocal music. The ensemble will perform some contemporary jazz and pop music and occasionally perform with the chamber choir. 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 161****CHAMBER CHOIR I (1CR)**

*Prerequisite: Audition*

Students will study and rehearse a variety of quality vocal music and perform at various 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 offers instruction on 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 (1CR)****MUS 181 (2CR)****STUDENT JAZZ ENSEMBLE I**

*Prerequisite: Audition*

Ensemble will perform jazz and popular music at festivals, public concerts and college functions. 3-6 hrs./wk.

**MUS 177 (1CR)****MUS 182 (2CR)****STUDENT JAZZ ENSEMBLE II**

*Prerequisite: MUS 181*

This class consists of continued performances of jazz and popular music at festivals, public concerts and college functions. 3-6 hrs./wk.

**MUS 178 (1CR)****MUS 183 (2CR)****STUDENT JAZZ ENSEMBLE III**

*Prerequisite: MUS 182*

This class consists of continued performances of jazz and popular music at festivals, public concerts and college functions. 3-6 hrs./wk.

**MUS 179 (1CR)****MUS 184 (2CR)****STUDENT JAZZ ENSEMBLE IV**

*Prerequisite: MUS 183*

This class consists of continued performances of jazz and popular music at festivals, public concerts and college functions. 3-6 hrs./wk.

**MUS 187****JAZZ IMPROVISATION I (2CR)**

*Prerequisite: High school playing experience*

This is a fundamental approach to 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 focuses 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 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 per wk.

**MUS 212****ORCHESTRA II (1CR)**

*Prerequisite: MUS 211 or audition*

This is a continuation of Orchestra I. 2 hrs./1 evening per wk.

**MUS 213****ORCHESTRA III (1CR)**

*Prerequisite: MUS 212 or audition*

This is a continuation of Orchestra II. 2 hrs./1 evening per wk.

**MUS 214****ORCHESTRA IV (1CR)**

*Prerequisite: MUS 213 or audition*

This is a continuation of Orchestra III. 2 hrs./1 evening per 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*

Advanced instruction for those who have completed Applied Woodwind I. 1 hr./wk.

**MUS 218****APPLIED WOODWIND III (Class) (1CR)**

*Prerequisite: MUS 217*

Advanced instruction for those who have completed Applied Woodwind II. 1 hr./wk.

**MUS 219****APPLIED WOODWIND IV (Class) (1CR)**

*Prerequisite: MUS 218*

Advanced instruction for those who have completed Applied Woodwind III. 1 hr./wk.

**MUS 221****APPLIED PIANO I (Class) (2CR)**

This class offers beginning group instruction in playing the piano. 1 hr./wk.

**MUS 222****APPLIED PIANO II (Class) (2CR)**

*Prerequisite: MUS 221*

Advanced group instruction for those who have completed Applied Piano I. 1 hr./wk.

**MUS 223****APPLIED PIANO III (Class) (2CR)**

*Prerequisite: MUS 222*

Advanced group instruction for those who have completed Applied Piano II. 1 hr./wk.

**MUS 224****APPLIED PIANO IV (Class) (2CR)**

*Prerequisite: MUS 223*

Advanced group instruction for those who have completed Applied Piano III. 1 hr./wk.

**MUS 226****APPLIED GUITAR I (Class) (1CR)**

This class offers 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. 1 hr./wk.

**MUS 228****APPLIED GUITAR III (Class) (1CR)**

*Prerequisite: MUS 227*

Advanced group instruction in playing the guitar. 1 hr./wk.

**MUS 229****APPLIED GUITAR IV (Class) (1CR)**

*Prerequisite: MUS 228*

Advanced group instruction in playing the guitar. 1 hr./wk.

**MUS 231****APPLIED VOICE I (Private) (1CR)**

This instruction in vocal music is private, ½ hr./wk. for 16 weeks by arrangement with an approved instructor.

**MUS 232****APPLIED VOICE II (Private) (1CR)**

*Prerequisite: MUS 231*

Advanced private vocal music instruction.

**MUS 233****APPLIED VOICE III (Private) (1CR)**

*Prerequisite: MUS 232*

Advanced private vocal music instruction.

**MUS 234****APPLIED VOICE IV (Private) (1CR)**

*Prerequisite: MUS 233*

Advanced private vocal music instruction.

**MUS 236****APPLIED PIANO I (Private) (1CR)**

Students will be offered private instruction on the piano, ½ hr./wk. for 16 weeks by arrangement with an approved instructor.

**MUS 237****APPLIED PIANO II (Private) (1CR)**

*Prerequisite: MUS 236*

Advanced private piano playing instruction.

**MUS 238****APPLIED PIANO III (Private) (1CR)**

*Prerequisite: MUS 237*

Advanced private piano playing instruction.

**MUS 239****APPLIED PIANO IV (Private) (1CR)**

*Prerequisite: MUS 238*

Advanced private piano playing instruction.

**MUS 241****APPLIED GUITAR I (Private) (1CR)**

Students will be offered private instruction on the guitar, ½ hr./wk. for 16 weeks by arrangement with an approved instructor.

**MUS 242****APPLIED GUITAR II (Private) (1CR)**

*Prerequisite: MUS 241*

Advanced private guitar playing instruction.

**MUS 243****APPLIED GUITAR III (Private) (1CR)**

*Prerequisite: MUS 242*

Advanced private guitar playing instruction.

**MUS 244****APPLIED GUITAR IV (Private) (1CR)**

*Prerequisite: MUS 243*

Advanced private guitar playing instruction.

**MUS 246****APPLIED CLASSICAL GUITAR I (Private) (1CR)**

Students will be offered private instruction on classical guitar, ½ hr./wk. for 16 weeks by arrangement with an approved instructor.



**MUS 247**  
**APPLIED CLASSICAL GUITAR II (Private) (1CR)**

*Prerequisite: MUS 246*

Advanced private classical guitar playing instruction.

**MUS 248**  
**APPLIED CLASSICAL**  
**GUITAR III (Private) (1CR)**

*Prerequisite: MUS 247*

Advanced private classical guitar playing instruction.

**MUS 249**  
**APPLIED CLASSICAL**  
**GUITAR IV (Private) (1CR)**

*Prerequisite: MUS 248*

Advanced private classical guitar playing instruction.

**MUS 251**  
**APPLIED BRASS I (Private) (1CR)**

Students will be offered private instruction on the brass instrument of their choice, ½ hr./wk. for 16 weeks by arrangement with an approved instructor.

**MUS 252**  
**APPLIED BRASS II (Private) (1CR)**

*Prerequisite: MUS 251*

Advanced private brass instrument playing instruction.

**MUS 253**  
**APPLIED BRASS III (Private) (1CR)**

*Prerequisite: MUS 252*

Advanced private brass instrument playing instruction.

**MUS 254**  
**APPLIED BRASS IV (Private) (1CR)**

*Prerequisite: MUS 253*

Advanced private brass instrument playing instruction.

**MUS 256**  
**APPLIED PERCUSSION I (Private) (1CR)**

Students will be offered private instruction on the percussion instruments of their choice, ½ hr./wk. for 16 weeks by arrangement with an approved instructor.

**MUS 257**  
**APPLIED PERCUSSION II (Private) (1CR)**

*Prerequisite: MUS 256*

Advanced private percussion instrument playing instruction.

**MUS 258**  
**APPLIED PERCUSSION III (Private) (1CR)**

*Prerequisite: MUS 257*

Advanced private percussion instrument playing instruction.

**MUS 259**  
**APPLIED PERCUSSION IV (Private) (1CR)**

*Prerequisite: MUS 258*

Advanced private percussion instrument playing instruction.

**MUS 261**  
**APPLIED WOODWIND I (Private) (1CR)**

Students can choose their own woodwind instrument for this private instruction, ½ hr./wk. for 16 weeks by arrangement with an approved instructor.

**MUS 262**  
**APPLIED WOODWIND II (Private) (1CR)**

*Prerequisite: MUS 261*

Advanced private woodwind instrument playing instruction.

**MUS 263**  
**APPLIED WOODWIND III (Private) (1CR)**

*Prerequisite: MUS 262*

Advanced private woodwind instrument playing instruction.

**MUS 264**  
**APPLIED WOODWIND IV (Private) (1CR)**

*Prerequisite: MUS 263*

Advanced private woodwind instrument playing instruction.

## NURSING

### **NURS 121 NURSING CARE OF THE INDIVIDUAL: CONCEPTS OF HEALTH (8CR)**

*Prerequisite: Admission to Nursing Program*  
*Corequisites: BIOL 140, PSYC 130*

The first in a series of four courses, this introduction to nursing emphasizes the assessment and maintenance of health in individuals of various ages. This course also examines the concepts and principles of basic nursing care, providing a foundation for subsequent nursing courses. 4 hrs. class, 12 hrs. lab/wk. Fall.

### **NURS 122 NURSING CARE OF THE INDIVIDUAL: ADAPTATION TO CHANGE (8CR)**

*Prerequisite: NURS 121*  
*Corequisites: BIOL 225 and PSYC 215*

The second of four sequential courses, this course provides 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 is an integral part of this course. 4 hrs. class, 12 hrs. lab/wk. Spring.

### **NURS 123 LPN-RN TRANSITION COURSE (8CR)**

*Prerequisite: Licensure as 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 seeking advanced standing. Topics include group process, relationships, the role of the AD graduate, communication skills and nursing process. Individual assessment and assistance will be emphasized. 24 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 215*

The third in a sequence of four courses, the focus in this course is on the individual whose optimum state of well-being has been altered by a temporary, acute, disruptive problem which requires implementation of the nursing process. Pathophysiology and the application of basic scientific principles in the problem-solving process are stressed. The course includes an introduction to contemporary issues in nursing. Clinical laboratory experience in health care agencies is an important part of the course. 4-5 hrs. class, 15 hrs. 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 focuses on the individual whose optimum state of well-being has been altered by chronic, progressive, disruptive problems which require implementation of the nursing process. Emphasis is on the concept of rehabilitation, adaptation to a permanently-altered life style and the development and/or reestablishment of independence. The role of the AD graduate seeking employment in the community is stressed. 4 hrs. lecture, 15 hrs. clinical lab/wk. Spring.

## OCCUPATIONAL THERAPY

### **KOT 100 INTRODUCTION TO OCCUPATIONAL THERAPY (2CR)**

This class is a survey of the profession of occupational therapy and its relation to the health care system. The role and function of the registered occupational therapist and the certified occupational therapy assistant is presented through films, group discussion, reading assignments and guest lecturers who work in occupational therapy specialty areas. 12 hrs. observation in occupational therapy clinics required. 2 hrs. class/wk.

### **KOT 101 OCCUPATIONAL THERAPY GROWTH AND DEVELOPMENT (3CR)**

*Prerequisites: KOT 100 and admission to program*  
Physical, perceptual, cognitive, social, intellectual and emotional development during normal growth from prenatal stages through death is presented. Students are required to observe normal states of growth at day care centers, community centers and work settings. 3 hrs./wk.

### **KOT 102 OCCUPATIONAL THERAPY IN MENTAL HEALTH (3CR)**

*Prerequisites: PSYC 130, KOT 100 and admission to the program*

This course includes a survey of personality disorders, psychoses, adjustment reactions, brain dysfunctions, anxiety disorders, behavioral reactions and substance abuse. Various types of mental health settings and health care professionals are studied. 3 hrs./wk.

**KOT 103****CLINICAL CONDITIONS (3CR)**

*Prerequisites: KOT 100 and admission to program*

This course covers both physical and psychosocial dysfunctions commonly referred to and treated by occupational therapists. 2 hrs. lecture, 2 hrs. lab/wk.

**KOT 104****THERAPEUTIC MEDIA I (2CR)**

*Prerequisite: KOT 100*

The development of skills in basic craft, recreational and daily living activities used as therapeutic media in occupational therapy settings will be presented. 4 hrs./wk.

**KOT 200****PRINCIPLES OF  
OCCUPATIONAL THERAPY (2CR)**

*Prerequisites: KOT 100 and admission to program*

This course surveys principles and standards in the practice of occupational therapy. Topics presented include writing progress notes, program development and other indirect services. 2 hrs./wk.

**KOT 201****OCCUPATIONAL THERAPY  
IN MENTAL HEALTH II (5CR)**

*Prerequisites: PSYC 130, KOT 102*

This is a continuation of the study of occupational therapy in mental health settings. Discussion will cover evaluations, principles and techniques the occupational therapist uses in the psychiatric setting. The students will observe treatment methods under the supervision of a registered occupational therapist in various local hospitals. 2 hrs. lecture, 6 hrs. lab/wk.

**KOT 202****OCCUPATIONAL THERAPY  
IN PHYSICAL DISABILITIES (5CR)**

*Prerequisites: KOT 100, KOT 101, KOT 103, BIOL 144*

Areas covered in lab and lecture include occupational therapy treatment techniques, methods and adaptive equipment used with the physically disabled. Students will be assigned to various local hospital occupational therapy departments to observe treatment methods under the supervision of a registered occupational therapist. 2 hrs. lecture, 6 hrs. lab/wk.

**KOT 203****SHOP PRACTICES/ORTHOTICS (2CR)**

*Prerequisites: KOT 100 and admission to program*

This course includes demonstrations in the use and care of power and hand tools in the fabrication of equipment or devices used in occupational therapy. 4 hrs./wk.

**KOT 204****THERAPEUTIC MEDIA II (3CR)**

*Prerequisites: KOT 104 and art elective*

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 205****FIELDWORK IN  
OCCUPATIONAL THERAPY I (3CR)**

*Prerequisite: Successful completion of all theory courses with a minimum grade of "C" or approval of division director*

This course consists of directed fieldwork experience in the practice of occupational therapy with clients with physical dysfunctions. 240 clock hours.

**KOT 206****FIELDWORK IN  
OCCUPATIONAL THERAPY II (3CR)**

*Corequisites: Concurrent enrollment in KOT 205 and minimum grade of "C" or approval of division director*

This course consists of directed fieldwork experience in the practice of occupational therapy with clients with psychosocial dysfunctions. 240 clock hours.

**KOT 207****CLINICAL SEMINAR (2CR)**

*Corequisites: KOT 205 and KOT 206 or approval of division director*

The students will discuss professionalism as well as their experiences in the clinical areas. 2 hrs./wk.

## PARALEGAL

### PL 121

#### INTRODUCTION TO LAW (3CR)

This introductory study of the legal system covers the nature and functions of law and the operation and structure of state and federal court systems and administrative agencies. Surveys the major areas of substantive law. (Open to students with a general interest in the law and required of students enrolled in the Paralegal Program.) 3 hrs./wk.

### PL 123

#### PARALEGAL PROFESSIONAL STUDIES (1CR)

Students will discuss the role of legal assistants in the practice of law. They also will review paralegal functions, types of employment, education, licensing, professional ethics, unauthorized practice of law. Class includes an introduction to paralegal skills. 1 hr./wk.

### PL 131

#### LEGAL RESEARCH (3CR)

*Prerequisites or corequisites: PL 121 and PL 123 or division director approval*

This is a practical approach to legal research problems. Through research projects, students will become familiar with legal publications and how to use them in solving legal problems. Methods and various forms of legal writing also will be discussed. 3 hrs./wk.

### PL 132

#### LITIGATION I (3CR)

*Prerequisites: PL 121, PL 123 and PL 131 or division director approval*

Civil litigation – especially the practice aspects involved in the trial of a civil lawsuit – will be explored. Includes the study of various types of litigation; Kansas, Missouri and federal civil procedures; trial preparation, and trial and post-trial matters. 3 hrs./wk. Spring.

### PL 140

#### COMPUTERIZED LITIGATION SUPPORT (1CR)

*Prerequisite: PL 132 or division director approval*

Upon completion of this course the student will be able to use a microcomputer and related software designed for an automated litigation support system. Students will also be able to solve problems common to such systems. 1 hr. lecture/lab wk.

### PL 152

#### REAL ESTATE LAW (3CR)

*Prerequisites: PL 121 and PL 123 or division director approval*

Real property and common types of real estate transactions and conveyances will be examined. The preparation of legal instruments – such as deeds, contracts, leases, deeds of trust and mortgages – will be studied. Students will be involved with projects and document retrieval and recording. 3 hrs./wk. Spring.

### PL 162

#### FAMILY LAW (3CR)

*Prerequisites: PL 121 and PL 123 or division director approval*

Specific topics in family law covered in this class include adoption, guardianships, child custody and support, name changes, contested and uncontested divorces. Emphasis will be on court forms, preparing pleadings and settlement agreements and using interviewing checklists. 3 hrs./wk. Spring.

### PL 171

#### LAW OFFICE SYSTEMS (3CR)

*Prerequisites: PL 121 and 123 or division director approval*

This is a study of the internal function of the law office or legal department. It will address such areas as personnel matters, office systems including docketing and time controls, law library maintenance, filing systems, financial and accounting management, and office equipment. 3 hrs./wk. Fall.

### PL 205

#### LEGAL WRITING (1CR)

*Prerequisite: PL 131*

Legal Writing has been designed to acquaint students with specialized legal research and factual research. Emphasis will be on preparing and writing legal briefs and other documents related to legal research. 16 hrs./semester. Fall.

### PL 212

#### BUSINESS ORGANIZATIONS (3CR)

*Prerequisites: PL 121 and PL 123 or division director approval*

Business entities – such as corporations, partnerships and sole proprietorships – will be examined. The role of the lawyer and the legal assistant in forming these entities will be discussed along with the legal concepts applicable to each type of organization and the preparation of related documents. 3 hrs./wk. Fall.

**PL 221**

**COMMERCIAL TRANSACTIONS (1CR)**

*Prerequisites: PL 121 and PL 123 or division director approval*

Personal property contracts – especially documents and forms related to sales and credit transactions – will be explained. This class also will cover preparation of business and commercial documents and the application of Uniform Commercial Code provisions. 16 hrs./semester. Fall.

**PL 232**

**LITIGATION II (3CR)**

*Prerequisite: PL 132 or division director approval*

In this continuation of Litigation I, emphasis will be on the trial and appellate stages of civil litigation. It includes an in-depth preparation of pleadings and related documents. 3 hrs./wk. Fall.

**PL 241**

**WILLS, TRUSTS AND PROBATE ADMINISTRATION (3CR)**

*Prerequisites: PL 121 and PL 123 or division director approval*

Included in this study of the administration of estates are techniques for fact gathering, inheritance and estate tax principles, use of trusts, will drafting and probate procedures. Emphasis will be on standard procedures used in assisting lawyers in these areas. 3 hrs./wk. Fall.

**PL 242**

**ESTATE PLANNING (3CR)**

*Prerequisite: PL 241 or division director approval*

The tax considerations involved in estate planning are reviewed. Topics include the preparation of federal estate tax forms, state inheritance forms, fiduciary income tax returns and drafting trust provisions. 3 hrs./wk. Spring.

**PL 261**

**RETIREMENT PLANS-QUALIFICATIONS AND ADMINISTRATION (1CR)**

*Prerequisite: PL 212 or division director approval*

This study of qualified retirement plans will emphasize design, funding and operation. Topics will include preparing documents for qualification, administration and termination. IRAs and other retirement plans will also be discussed. Class meets 16 hrs./semester. Fall.

**PL 264**

**WORKERS' COMPENSATION (1CR)**

*Prerequisites: PL 121 and PL 123 or division director approval*

Emphasis in this in-depth study of workers' compensation will be on preparation of claims, benefits, adjudication and administrative procedures. Class meets 16 hrs./semester. Spring.

**PL 268**

**BANKRUPTCY (1CR)**

*Prerequisites: PL 121 and PL 123 or division director approval*

This in-depth study of bankruptcy law emphasizes the preparation of forms and bankruptcy proceedings. Class meets 16 hrs./semester. Spring.

**PL 271**

**SEMINAR: LEGAL INTERVIEWING AND INVESTIGATION (2CR)**

*Prerequisites: PL 121, PL 123 and 9 credits in other paralegal specialty courses*

In this course, students will implement skills acquired in prerequisite courses and study in depth legal ethics. The course covers legal interviewing and investigation with emphasis on development of related skills. 2 hrs./wk.

**PL 275**

**PARALEGAL INTERNSHIP I (1CR)**

*Prerequisite or Corequisite: PL 271*

Students will work in an approved training situation under instructional supervision. This internship is designed to give students the opportunity to apply the skills they acquired in paralegal specialty courses. By arrangement.

**PL 276**

**PARALEGAL INTERNSHIP II (1CR)**

*Prerequisite: PL 275*

Students will work in approved training situations under instructional supervision. The internship is designed to give students the opportunity to apply the skills they acquired in paralegal specialty courses. By arrangement.

**PL 298**

**LEGAL LONDON (2CR)**

The areas of London and the British government which relate directly to American law and government will be examined in this course. Spring.



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## 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 is on the value of philosophical inquiry in today's society. 3 hrs./wk.

### PHIL 132

#### LOGIC (3CR)

In this study of informal and formal logic, emphasis is on the nature and structure of arguments, the requirements for evidence and validity, and techniques for assessing the strengths of various argument forms. 3 hrs./wk.

### PHIL 143

#### ETHICS (3CR)

The great problems of ethics including free will and determinism, relativism and absolutism, 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 165

#### PHILOSOPHY OF CURRENT CIVILIZATION (3CR)

This is systematic and critical analysis of selected major current issues in American civilization and the philosophies presupposed by these issues. Students will refer to philosophical articles and news media. 3 hrs./wk.

### PHIL 176

#### PHILOSOPHY OF RELIGION (3CR)

This course deals with the following general philosophical questions: What is religion? Do we need religion and, if so, why? What are the differences between the claims made by religion and science? All readings are from contemporary theological and philosophical sources. 3 hrs./wk.

## PHOTOGRAPHY

### PHOT 120

#### THE PHOTOGRAPHIC VISION: ALL ABOUT PHOTOGRAPHY (3CR)

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 combine with 15 hours of classroom instruction to provide an introduction to the basic mechanical skills of camera handling, 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

#### PHOTOGRAPHY I (3CR)

In this introduction to the basic processes and principles of photography, emphasis is on becoming competent in the use of photographic materials and equipment including cameras, light meters, films, filters and chemicals. Students also will develop negatives, print and present photographs. Students must provide their own cameras with adjustable focus, shutter speeds and aperture. 3 hrs. lecture, 3 hrs. lab/wk.

### PHOT 122

#### PHOTOGRAPHY II (3CR)

*Prerequisite: PHOT 121*

Emphasis is on developing professional standards of photographic technique and image quality. Topics include exposure and development control using the "zone system," natural light photography, advanced darkroom techniques, chemistry and toning. Basic view camera techniques also will be introduced. 3 hrs. lecture, 3 hrs. lab/wk.

### PHOT 123

#### PHOTOGRAPHY III (3CR)

*Prerequisite: PHOT 121*

This course emphasizes commercial and other forms of applied photography. The class includes view camera techniques and lighting techniques with emphasis on studio lighting, portrait, advertising, illustration photography. 3 hrs. lecture, 3 hrs. lab/wk.

**PHOT 134**  
**COLOR TRANSPARENCIES (2CR)**

*Prerequisite: PHOT 121*

The materials, camera techniques, processing and various applications of color transparency film will be explained. Color transparencies used in audio-visual 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. 2 hrs. lecture, 2 hrs. lab/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 covered and related in an interdisciplinary manner to the broader histories of art, culture and ideas. 3 hrs. lecture/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 is viewed in relation to important aspects of modern culture and thought. 3 hrs./wk.

## PHYSICAL EDUCATION

Refer to Health, Physical Education & Recreation (HPER) for course descriptions.

## PHYSICAL SCIENCE

**PSCI 120**  
**PHYSICAL SCIENCE (4CR)**

This is a study of fundamentals of physics, chemistry, astronomy and geology. Topics include energy, electricity, magnetism, modern physics and chemical bonding. 2 hrs. lecture, 2-6 hrs. lab/wk., flexible scheduling.

**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 include quasars, black holes, origin of the universe and the possibility of life on other planets. 4 hrs./wk., 5 night-time telescope sessions.

**PHYS 130**  
**GENERAL PHYSICS I (5CR)**

*Prerequisite: MATH 160*

Selected topics in physics will be introduced – motion, energy, matter, thermodynamics and wave motion. 4 hrs. lecture, 3 hrs. lab/wk. Fall.

**PHYS 131**  
**GENERAL PHYSICS II (5CR)**

*Prerequisite: PHYS 130*

In this continuation of General Physics I, topics include electricity, magnetism, light, atomic and nuclear structure, quantum theory, relativity and particle physics. 4 hrs. lecture, 3 hrs. lab/wk. Spring.

**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.

## PHYSICS

**PHYS 125**  
**TECHNICAL PHYSICS I (4CR)**

*Prerequisite: MATH 133 or MATH 143*

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 PHYS 125. Concepts studied include energy, force transformers, energy converters and vibrations and waves in mechanical, fluidal, electrical and thermal systems. 2 hrs. lecture, 3 hrs. lab/wk.

**PSCI 130**  
**GENERAL GEOLOGY (5CR)**

General Geology provides a survey of the earth and the processes that have shaped it. Lecture units consist of the solid earth, the atmosphere, the hydrosphere, resources, and environmental geology. Laboratory units 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*

Historical Geology provides a survey of the geological development of North America and the processes, environments and tectonics that occurred during the formation of the continent. Topics include the inter-relationships of various rock strata, stratigraphic-geologic time, correlation, interpretation of geologic maps and identification of fossils. 4 hrs. lecture, 3 hrs. lab/wk.

**PSCI 140**  
**PHYSICAL GEOGRAPHY (3CR)**

A survey of the physical and environmental topics of geography including methods used to study them. The earth, its atmosphere, its hydrosphere, and its surface features constitute the major units of study. Some additional topics include mapping, weather, climate, weathering, soils, rivers, deserts, mountains, topography and landforms. 3 hrs. lecture/wk.

**PSCI 141**  
**PHYSICAL GEOGRAPHY LAB (2CR)**

*Corequisite: PSCI 140 or equivalent*

Students in this course will have the opportunity to broaden their knowledge of geography through identification of earth materials and the reading and interpretation of various types of maps and remote sensing photographs. 4 hrs. lab/wk.

**PSCI 148**  
**SCIENCE PROBLEMS**  
**ON THE COMPUTER (2CR)**

*Prerequisite: One college-level physical science or life science course*

Elementary skills in programming a microcomputer using BASIC language will be introduced. Problem-solving techniques will be developed. 1 hr. lecture, 2 hrs. lab/wk.

**PSCI 295**  
**OZARK GEOLOGY (3CR)**

This travel-for-credit course provides a survey of 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 in order to study the stratigraphy, structure, hydrology, mineralogy, landforms and economic geology of the region. Five 3 hr. pre-trip meetings will be held to provide students with the geologic knowledge necessary to make field observations.

**PSCI 297**  
**GEOLOGY OF THE HAWAIIAN ISLANDS (3CR)**

This travel-for-credit course provides a survey of the geology and natural history of the Hawaiian Islands through field and classroom study. Field observations of concepts presented in five 3-hour pre-trip seminars will be made during a two-week field trip to the Hawaiian Islands. Topics to be studied and observed include a survey of volcanism, oceanography, meteorology, sedimentology, hydrology and structure of the Hawaiian Islands as well as important natural history sites.

## **PHYSICAL** **THERAPY ASSISTANT**

**KPT 151**  
**INTRODUCTION TO**  
**PHYSICAL THERAPY (2CR)**

The student will be introduced to the basic concepts of the function of a physical therapist and a physical therapist assistant as members of the health team and the interaction of other health disciplines in the care of the patient. Medical terminology related to the specific discipline will be introduced also. Field trips to local hospitals included. 2 hrs. lecture/wk.

**KPT 152**  
**FUNDAMENTALS OF MODALITIES I (3CR)**

*Prerequisite: KPT 151*

The student will understand basic medical terminology, description of modalities and therapeutic measures used in the physical treatment of various injuries and diseases with emphasis on department organization and orientation to position duties and job opportunities. By field trips, the student will be exposed to actual hospital and clinical facilities. Clinical lab will allow the student to be introduced to the practical application of all modalities used in the Physical Therapy clinic. 2 hrs. lecture, 2 hr. lab./wk

**KPT 153  
KINESIOLOGY (4CR)**

*Prerequisite: BIOL 120*

Students will analyze muscles and their functions, biomechanics of human motion, activities of joints and functions of the musculoskeletal system. 4 hrs./wk.

**KPT 155  
REHABILITATION (4CR)**

The student will be introduced to the philosophy underlying rehabilitation, theory and principles involved in normal and abnormal ambulation and mobility. Emphasis is on external supports used in teaching activities of daily living. Attention will be given to description, demonstration and practice with various applications and devices necessary to assist the disabled. 2 hrs. lecture, 4 hrs. lab/wk.

**KPT 158  
THERAPEUTIC EXERCISE (4CR)**

*Corequisites: KPT 159, KPT 170 and KPT 171*

Students will be introduced to the theory and principles of mechanical appliances and equipment, shoulder wheels, pulleys, traction and exercise devices used by the disabled. Emphasis will be on muscle re-education, sensory stimulation, and safety precautions and exercise as treatment techniques. 3 hrs. lecture, 4 hrs. lab/wk.

**KPT 159  
CLINICAL PATHOLOGY (4CR)**

*Corequisites: KPT 155, KPT 158, KPT 170 and KPT 171*

Students will study general pathology with detailed emphasis on the study of diseases and disease processes. 3 hrs./wk.

**KPT 161  
FUNDAMENTALS OF MODALITIES II (5CR)**

The student will be introduced to the theory and practical application of electrotherapy, hydrotherapy and therapeutic massage with emphasis on technique of application and indications and contraindications for use. The student also will observe in various local hospital physical therapy departments the practical application of therapeutic modalities and participate in the application of specific therapeutic modalities. 3 hrs. lecture, 4 hrs. lab/wk.

**KPT 165  
PHYSICS FOR THE  
PHYSICAL THERAPIST ASSISTANT (1CR)**

The student will be introduced to the following areas of Physics by using a nonmathematical approach: the properties of matter, energy, wave phenomena, electricity and the electromagnetic spectrum. Examples and illustrations applicable to physical therapy will be used to teach these physics principles. 2 hrs. lab, lecture/wk. for 8 weeks.

**KPT 170  
CLINICAL EXPERIENCE I (3CR)**

*Prerequisite: KPT 161*

*Corequisites: KPT 158, KPT 159*

The student will review practical application of principles learned in prior didactic seminars and take part in rotating internships in hospitals throughout greater Kansas City under the guidance of a registered physical therapist. 9 hrs. clinic/wk.

**KPT 171  
CLINICAL SEMINAR (1CR)**

*Corequisites: KPT 158, KPT 159*

While conducting student discussions, the program coordinator will evaluate the experience and programs of the students in Clinical Experience I. 1 hr. lecture/wk.

**KPT 172  
CLINICAL EXPERIENCE II (12CR)**

*Prerequisites: KPT 155, KPT 158, KPT 170, KPT 171*

The student will gain supervised clinical experience observing and applying techniques and procedures in all previous courses. Emphasis will be on assisting the physical therapist in the treatment procedures in a variety of clinical settings. 33 hrs. clinic/wk.

**POLITICAL SCIENCE**

**POLS 122  
POLITICAL SCIENCE: PEOPLE,  
POWER AND POLITICS (3CR)**

This course explores the interaction between political and economic ideas and institutions in the world political arena, and examines the role of communism, capitalism, fascism, and democracy in human political science. 3 hrs./wk.

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**POLS 124****AMERICAN NATIONAL GOVERNMENT (3CR)**

A survey of the politics of national policy making. Students will 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:  
COMMUNITY ISSUES  
AND GOVERNMENT (3CR)**

A thorough look at the issues facing our state and local government. Students learn about the institutions and processes designed to address them, they meet state and local decision-makers, and they visit the state legislature. Emphasis is on how to participate effectively in community government. 3 hrs./wk.

**POLS 132****INTRODUCTION TO  
COMPARATIVE GOVERNMENT:  
NATIONS AND POLITICAL ISSUES (3CR)**

A study of the major world political systems. This course compares and contrasts the resolution of key twentieth century political, social and economic issues. 3 hrs./wk.

**POLS 135****INTERNATIONAL RELATIONS:  
THE POLITICS OF WAR AND PEACE (3CR)**

Analyzes the conflict and cooperation among nation-states. Students study contemporary issues as they relate to the role of power, war, terrorism, diplomacy, international organizations and the future of the nation-state system. 3 hrs./wk.

**POLS 186****ISSUES 86: THE UNITED NATIONS (1CR)**

*Prerequisite: Successful completion of the Issues 86 program and completion of at least 15 high school units*

An overview of both the structure of and current issues in the United Nations. Special emphasis centers on the role of the Superpowers and their impact on the history and development of this international organization. 1 hr./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. The major events of the post-revolutionary period including land reform, collectivization, the cultural revolution, and the push for four modernizations will be studied. 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 are supplemented by lectures and seminars while in China.

**POLS 298****U.S. AND THE U.S.S.R.:  
TRAVEL FOR CREDIT (3CR)**

Through travel to the U.S.S.R. students will compare and contrast the historical, political, social, and cultural traditions of this major world power and those of our own. 15 hrs. lecture, 160 hrs. travel.

**PSYCHOLOGY****PSYC 121****APPLIED PSYCHOLOGY (3CR)**

How students can use psychological principles to better understand themselves and others will be the emphasis of this course. Topics 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 structured group experience designed to increase self-affirmation, self-motivation, self-determination and empathetic regard for others. It includes 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 127****CAREER/LIFE PLANNING (3CR)**

This is a systematic approach to career/life planning in which students will focus on a process for making occupational decisions at any point in their lives. 3 hrs./wk.

**PSYC 130**  
**INTRODUCTION TO PSYCHOLOGY (3CR)**

This is an introduction to general psychology. Topics 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 involves active participation in the application of research strategies in 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*

The psychological development of humans from conception through adolescence will be traced in this course. Students will study how genetic, biological, physiological and anthropological factors influence the psychological process. The role heredity and environment play in development will be analyzed. 3 hrs./wk, 20 hrs. practicum in a structured setting where children are present is required.

**PSYC 220**  
**SOCIAL PSYCHOLOGY (3CR)**

*Prerequisite: PSYC 130*

Social psychology seeks to comprehend the nature and causes of individual behavior in social situations. It identifies those factors that shape our feelings, overt actions and thought in social situations. Topics 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 include behavior, skills, memory, generalization of learning, assessment and measurement of learning, and intelligence. A practicum in a structured setting is 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, extra-sensory phenomena, ultimate values and eternal meanings. Experiential exercises to assist the integration of body, mind and spirit will be included. 3 hrs./wk.

**RADIOLOGIC TECHNOLOGY**

**KRAD 169**  
**MEDICAL AND RADIOLOGY TERMS (3CR)**

*Prerequisite: Admission to the program*

Students will study medical terminology, especially technical terminology used in radiology procedures. 3 hrs./wk.

**KRAD 170**  
**RADIOLOGIC TECHNOLOGY I (3CR)**

*Prerequisite: Admission to the program*

Radiation biology, radiation protection and monitoring, professional attitudes and ethics are among the topics covered. Special attention will be paid to emergency procedures in the radiology department. 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 gastrointestinal track, colon, gallbladder/biliary tract and kidney. 4 hrs./wk.

**KRAD 173  
CLINICAL TRAINING I (2CR)**

*Prerequisite: Admission to the program*

This class offers training in basic radiographic examinations and related tasks. The student will be expected to perform six examinations unassisted by the end of the term. 26 hrs. clinical/wk.

**KRAD 174  
RADIOGRAPHIC EXPOSURES II (3CR)**

*Prerequisite: KRAD 171*

Topics include quality control of radiographic images, technique charts, calibration of equipment, standard exposure systems, and special techniques used in producing radiographic images. 4 hrs./wk.

**KRAD 175  
CLINICAL TRAINING II (2CR)**

*Prerequisites: KRAD 169, KRAD 170, KRAD 171, KRAD 172, KRAD 173*

This training focuses on upper and lower extremities, cervical, thoracic and lumbar spine, ribs, sternum, skull and mammographic examinations. The student must be able to perform six additional examinations unassisted by the end of the term. 26 hrs. clinical/wk.

**KRAD 176  
RADIOGRAPHIC POSITIONING II (3CR)**

*Prerequisite: KRAD 172*

This class covers anatomy and positioning related to the upper and lower extremities, the vertebral column, thorax to include mammography. 4 hrs./wk.

**KRAD 178  
CLINICAL TRAINING III (1CR)**

*Prerequisites: KRAD 174, KRAD 175, KRAD 176*

Training in this course continues in examining the ribs, cervical, thoracic and lumbar spine, gallbladder, biliary system and retrograde pyelograms and infusion pyelograms using tomography. Students will be assigned to five evening training sessions during the summer. Average 24 hrs./wk.

**KRAD 278  
RADIOLOGIC TECHNOLOGY II (3CR)**

*Prerequisites: BIOL 144, KRAD 170*

This course is intended to study disease processes of all organ systems with emphasis placed on study of pathology visualized on radiographs or through other image producing modalities like CAT scans or ultrasound exams. 3 hrs./wk.

**KRAD 279  
RADIOGRAPHIC POSITIONING III (3CR)**

*Prerequisite: KRAD 176*

Students will study methods of positioning the trauma patient as well as anatomy and positioning for the skull, sinuses, facial bones and teeth. Emphasis is on special views of the skull. 3 hrs. lecture, 1 hr. lab/wk.

**KRAD 280  
CLINICAL TRAINING IV (2CR)**

*Prerequisite: KRAD 178*

Students will examine the skeletal system in this class. Training opportunities in portable radiography, emergency room techniques and supervised fluoroscopy will be provided. Students will be expected to perform with limited supervision all the exams they have shown competence in as well as six new exams by the end of the term. 20 hrs./wk.

**KRAD 281  
PHYSICS OF X-RAY EQUIPMENT (4CR)**

*Prerequisites: PSCI 120, KRAD 174*

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 (2CR)**

*Prerequisites: KRAD 279, KRAD 280*

Students will receive training in the areas in which they show need and will be expected to perform, under limited supervision, most department examinations. They also will begin rotation through specialty areas, i.e., CAT scan, nuclear medicine, ultrasound, vascular procedures and radiation therapy. 20 hrs./wk.

**KRAD 283  
FINAL SEMINAR (3CR)**

*Prerequisites: KRAD 278, KRAD 281, KRAD 282*

Students will prepare for the National Registry examination by using tests and review materials designed to simulate the ARRT examinations. Completion of this course and all R.T. courses with a "C" or better is required for qualification for the R.T. National Registry examination.

**KRAD 284  
CLINICAL TRAINING VI (1CR)**

*Prerequisites: KRAD 172, KRAD 281, KRAD 282*

Students will be assigned training in areas of special need and will be evaluated on their specialty rotation areas. 24 hrs./wk.

**KRAD 285  
SPECIAL PROCEDURES (3CR)**

*Prerequisites: BIOL 144, KRAD 176, KRAD 279*

This course covers 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 287  
CLINICAL TRAINING VII (3CR)**

*Prerequisites: KRAD 283, KRAD 284, KRAD 285*

Students will complete evaluations for remaining exams and skills and will make final preparation to enter the field as registered technologists. They also will be assigned to all areas of the department on a rotation basis. 39 hrs./wk.

**KRAD 288  
SPECIALTY TRAINING (ELECTIVE) (9CR)**

*Prerequisite: Approval of PVCC*

This class offers additional training in one of the following areas: nuclear medicine, ultrasound, radiation therapy, thermography or computer-assisted tomography, or management/supervision. 1 hr. lecture, 16 hrs. lab/wk.

**RECREATION LEADERSHIP**

Refer to Health, Physical Education & Recreation (HPER) for course descriptions.

**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, pathophysiology 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 is 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 include equipment for oxygen therapy, aerosol therapy and IPPB. Students 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 lectures. This will be an introduction to the diagnostic procedures used by the pulmonary physician in evaluating patients with respiratory disease. The class also provides information on the pathology of disease states the student will encounter. 2 hrs. lecture/wk. Summer.

**RT 220  
CLINICAL  
CARDIOPULMONARY PHYSIOLOGY (2CR)**

*Prerequisite: Successful completion of 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. lecture/wk. Fall.

**RT 230  
CLINIC TOPICS AND PROCEDURES I (4CR)**

*Prerequisite: Successful completion of summer sequence of respiratory therapy courses*

In this lecture and lab course, students will focus on basic care, emergency care, mechanical ventilators and critical care. 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*

Focus is on the respiratory care of neonatal and pediatric patients with emphasis on the management of cardiopulmonary disease states unique to children. Information is based on developmental anatomy and physiology, pathology, diagnostic/laboratory procedures, and equipment manipulation in acute, chronic, critical and emergency care settings. 2 hrs. lecture/wk. Spring.

**RT 235  
CARDIOPULMONARY MEDICINE II (2CR)**

*Prerequisite: Successful completion of summer sequence of respiratory therapy courses*

This is a continuation of the series taught by the medical director of the program emphasizing disease states of the cardio-pulmonary system. Discussion covers the pathology, diagnosis and treatment of various diseases and the role of the respiratory therapist in the medical management of these patients. 2 hrs. lecture/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. lecture/wk. Spring.

**RT 240  
RESPIRATORY PHARMACOLOGY (2CR)**

*Prerequisite: Successful completion of the summer sequence of respiratory therapy courses*

This class presents all the pharmacology respiratory therapists provide plus a general study of most of the drugs used in the care of patients with cardiopulmonary problems. Drugs administered during a code blue also are stressed. 2 hrs. lecture/wk. Fall.

**RT 271  
CLINICAL PRACTICE I (4CR)**

*Prerequisite: Successful completion of 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 medical director of the program and will focus on performing 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.

## SECRETARIAL CAREERS

**SEC 101  
KEYBOARDING (1CR)**

Here is a course for data processing students who cannot touch type and for employees in medicine, law, sales, travel, education and other areas who need keyboard skills. The class will stress accuracy at the keyboard in alpha, numeric and symbol keys. 17 hrs. instruction.

**SEC 105  
SHORTHAND REFRESHER:  
SHORT COURSE (1CR)**

Theory and vocabulary will be reviewed as students work on increasing their speed. 1 hr./wk.

**SEC 110  
BEGINNING TYPING (3CR)**

Students will work on keyboard and machine techniques as they concentrate on personal and business letters, outlines, manuscripts, tabulation and centering. The class consists of group as well as individualized instruction and scheduled use of secretarial lab. 3 hrs. class, 2 hrs. lab/wk.

**SEC 122  
INTERMEDIATE TYPING (3CR)**

*Prerequisite: SEC 110*

Speed and accuracy will be emphasized in typing business letters, memos, tabulated reports and financial reports. Class consists of group as well as individual instruction and scheduled use of secretarial lab. 3 hrs. class, 2 hrs. lab/wk.

**SEC 125  
SHORTHAND I (3CR)**

*Prerequisite or corequisite: SEC 110*

Students will concentrate on shorthand theory and writing familiar, previewed material in shorthand at a rate of 40-60 words per minute. In addition to the introduction of shorthand theory by the instructor, each student will use a series of tapes and other materials to reinforce theory rules. 3 hrs. class, 2 hrs. lab/wk.

**SEC 126  
SHORTHAND II (3CR)**

*Prerequisite: SEC 125*

This is a class for students with knowledge of basic shorthand theory. It consists of a review of shorthand theory, transcription techniques, spelling, punctuation and grammar through tapes and materials. Students will work to develop shorthand dictation speeds from 60-100 words per minute. 3 hrs. class, 2 hrs. lab/wk.

**SEC 130  
STENOSCRIP  
SPEEDWRITING SHORTHAND (3CR)**

*Prerequisite: SEC 122*

This course is for secretaries who need to quickly learn dictation skills and for students who must take notes in class. Students will begin taking dictation using abbreviated shorthand after the second session. It is possible to work up to 80-90 words per minute by the end of the course. Areas covered include theory, practice, speedbuilding and transcription. 3 hrs. lecture, 2 hrs. lab/wk.

**SEC 131  
STENOSCRIP  
DICTATION TRANSCRIPTION (3CR)**

*Prerequisite: SEC 130*

Students who have completed Stenoscrypt Speedwriting Shorthand can practice additional speed dictation and transcription in this class. All brief forms, abbreviations, spelling and punctuation will be reviewed and students will practice dictation, produce mailable transcripts and work on reaching speeds of 100-120 words per minute. 3 hrs./wk. Student will schedule 2 hrs. lab/wk.

**SEC 135  
ELECTRONIC CALCULATORS (1CR)**

In this class, students will concentrate on operating an electronic printing calculator, interpreting and recording answers, and solving arithmetic problems. The goal is to develop a high degree of proficiency in touch operation, speed and accuracy. 1 hr./wk. Students will schedule 1 hr. lab/wk.

**SEC 136  
RECORDS MANAGEMENT (3CR)**

Alphabetic, numeric, subject and geographic filing systems will be covered in this class on office routines and efficient methods and systems for storing and retrieving information. Various types of office filing equipment also will be surveyed. 3 hrs./wk.

**SEC 140  
LEGAL SECRETARY (2CR)**

This class covers topics recommended by the National Association of Legal Secretaries, including an overview of the field of law as it applies to the legal secretary. Students wishing to prepare for the PLS examination should consult the instructor before enrolling. 2 hrs./wk.

**SEC 142  
LEGAL TRANSCRIPTION (3CR)**

*Prerequisite: SEC 122*

This course is designed to provide knowledge and understanding of terms commonly used in the legal field. Students learn to correctly spell, pronounce and define the legal terms. In addition, students learn to transcribe the legal terms either directly from taped dictation or from shorthand notes. 3 hrs./wk., 2 hrs. lab/wk. Spring.

**SEC 184  
MEDICAL TRANSCRIPTION (3CR)**

This course is an introduction to the transcription of medical reports. Students are provided an extensive study of medical terminology as well as an introduction to the operation of transcription equipment. Spring.

**SEC 221  
PRODUCTION TYPING (3CR)**

*Prerequisite: SEC 122*

A high degree of proficiency in production typing will be the emphasis in this course as students work on typing for medical, legal, governmental and other specialized offices. Class consists of individual instruction and scheduled use of the lab. 3 hrs. class, 2 hrs. lab/wk.

**SEC 223****MACHINE TRANSCRIPTION (3CR)**

*Prerequisite: SEC 122*

This course is designed to teach the importance of mailability, cost efficiency, professionalism, and decision making in a business office setting. Students will learn transcription skills such as: knowledge of equipment (transcription machines and electronic typewriters), listening, professional development, proof-reading, keyboarding, formatting techniques, and English grammar and usage. 3 hrs. class, 2 hrs. lab/wk.

**SEC 225****DICTIONATION AND TRANSCRIPTION (3CR)**

*Prerequisites: SEC 122 and SEC 126*

Students will focus on increasing their speed and accuracy writing from dictated material and transcribing notes. An instructor will lead the class but students will study on their own, using materials geared to their individual abilities. Transcription speeds range from 80-120 words per minute. 3 hrs. class, 2 hrs. lab/wk.

**SEC 230****SECRETARIAL PROCEDURES I (3CR)**

*Prerequisite or corequisite: SEC 122*

This is an introduction to all phases of the office from a secretarial standpoint including word processing, written communication, transmittal services, telephone techniques, travel and conferences, collecting, processing and presenting business data, arranging meetings, and organizational and time management methods. The Certified Professional Secretary exam also will be covered. 3 hrs./wk. Fall.

**SEC 231****SECRETARIAL PROCEDURES II (3CR)**

*Prerequisite: SEC 230*

Students will have the opportunity to apply the skills they studied in Secretarial Procedures I in this class. Through simulated office situations and projects, the class will address these areas: meetings and conferences, travel arrangements, letter writing, reprographics, scheduling appointments, records management and work planning. The student may follow a medical, legal or administrative secretarial sequence. 3 hrs./wk. Spring.

**SEC 271 (3CR)****SEC 272 (2CR)****MANAGEMENT SEMINAR**

Under supervision, students will work in an approved office situation. Concepts, terminology, principles and theories of management will be introduced. A minimum of 15 hrs. on-the-job training by arrangement/wk. Will not be offered every semester.

**SEC 274 (3CR)****SEC 275 (2CR)****HUMAN RELATIONS SEMINAR**

Under supervision, students will work in an approved office situation. Focus will be on an analysis of the process which brings workers into contact with the organization in such a way that the objectives of both can be achieved. A minimum of 15 hrs. on-the-job training by arrangement/wk. Will not be offered every semester.

**SEC 276 (3CR)****SEC 277 (2CR)****ADMINISTRATIVE OFFICE****MANAGEMENT SEMINAR**

Students will work under supervision in an approved office situation. Focus will be on the process of planning, organizing, directing, coordinating and controlling office activities. A minimum of 15 hrs. on-the-job training by arrangement/wk. Will not be offered every semester.

**ANIMAL HEALTH****KSAH 100****INTRODUCTION TO ANIMAL TECHNOLOGY (2CR)**

Orientation to career opportunities available in animal health technology. Professional ethics, public relations, psychological adjustment of student in terms of understanding the need for physical treatment and emotional involvement in the treatment and care of animals. Client relations, vaccination programs, regulatory organizations, receptionist duties, breeds and breed characteristics, neutering, puppy care, diets and hospital management. 2 hrs./wk.

**KSAH 101****PRINCIPLES OF ANIMAL SCIENCE I (3CR)**

Principles of handling, housing, and management of animals. Basic dietary and sanitation requirements. Restraint and handling, administration of medications, bathing, skin scraping TPRs and basic laboratory tests. Emphasis on animal physiology including the cell, muscle, nervous, respiratory and cardiovascular systems. Introduction to anesthesia and general animal nursing. 2 hrs. lecture, 2 hrs. lab./wk.

**KSAH 108****CLINICAL MATH (1CR)**

Students will review the metric system and conversion units, apothecaries' equivalents, vocabulary, preparation of solutions, drug administration, calculating and measuring dosages and other areas. 1 hr./wk.

**KSAH 110****PRINCIPLES OF ANIMAL SCIENCE II (3CR)**

*Prerequisite: KSAH 101*

Continuation of Animal Science I. Specimen collection, urinary catheterization, blood collection, basic bandaging and an introduction to surgical preps and radiographic processing. Emphasis 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)**

Introduction to micro-organisms, sanitation, disinfectants and sterilization. Zoonotic diseases and public health problems. Introduction to parasitology and vermin control. Specimen preservation, instrument identification, cleaning and sterilization. Anesthesia monitoring and patient care. 1 hr. lecture, 2 hrs. lab/wk.

**KSAH 200****ANIMAL HOSPITAL TECHNOLOGY I (3CR)**

Administration of anesthetic and surgical assisting, bandaging, casting, blood transfusions, surgical preparation and postoperative procedures. Parenteral fluid administration and intravenous hook ups. Introduction to orthopedics, electrocardiography, bone marrow cytology and pharmacology. 1 hr. lecture, 4 hrs. lab/wk.

**KSAH 201****CLINICAL****PATHOLOGICAL TECHNIQUES I (4CR)**

Introduction to laboratory procedures including preparation of blood smears, cell identification, fecal analysis and parasitology. Urinalysis and urine sediment evaluation. 1 hr. lecture, 6 hrs. lab/wk.

**KSAH 202****ANIMAL TECHNOLOGY ANATOMY (5CR)**

Basic principles of anatomy using a systemic approach. Physiology as it relates to anatomy and applicable pathology involving the animal body systems. Comparison of the animal species using the cat for dissection. 3 hrs. lecture, 4 hrs. lab/wk.

**KSAH 203****LABORATORY ANIMAL TECHNOLOGY (2CR)**

*Prerequisites: KSAH 101, KSAH 110, KSAH 201*

Restraint and handling laboratory animals and birds. Blood collection, physical examinations, medicating and anesthesia of various species. Requirements of a supervisory position in laboratory animal research. 1 hr. lecture, 2 hrs. lab/wk.

**KSAH 209****EQUINE MEDICINE AND MANAGEMENT (3CR)**

Breeds and types of horses and their use. A study of conformation as it relates to soundness, horse psychology, fitting, conditioning, first aid and restraint, parasites and their control, farm management for safety, nutrition, mare care, breeding, foaling, hoof soundness, diseases and their prevention. 2 hrs. lecture, 2 hrs. lab/wk.

**KSAH 210****ANIMAL HOSPITAL TECHNOLOGY II (3CR)**

*Prerequisite: KSAH 201*

Theory and techniques in hematology, urinalysis, clinical chemistries and parasitology. Introduction to simple immunological tests, blood coagulation tests and bone marrow evaluation. 2 hrs. lecture, 3 hrs. lab/wk.

**KSAH 211****CLINICAL****PATHOLOGICAL TECHNIQUES II (5CR)**

*Prerequisite: KSAH 201*

This class consists of advanced work in hematology and serum chemistries with emphasis on evaluation of laboratory specimens and the basis of clinical chemistries. 2 hrs. lecture, 6 hrs. lab/wk.

**KSAH 212  
LARGE ANIMAL TECHNOLOGY (4CR)**

*Prerequisites: KSAH 101 and KSAH 110*

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. 2 hrs. lecture, 4 hrs. lab/wk.

**KSAH 213  
RADIOLOGY AND  
ELECTRONIC PROCEDURES (2CR)**

Intensive study and practice in radiological techniques, radiographic exposure techniques, film processing, contrast radiography and machine electronics. 1 hr. lecture, 2 hrs. lab/wk.

**KSAH 214  
ANIMAL HEALTH INTERNSHIP (6CR)**

*Prerequisite: Two semesters of first-year animal health courses*

Supervised intensive clinical study under the direction of a cooperating veterinarian to provide actual work experience. 420 actual work hours.

## **SOCIOLOGY**

**SOC 122  
SOCIOLOGY (3CR)**

This overview of social life covers group structure and processes, social interaction and 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 well as possible solutions. 3 hrs./wk.

**SOC 131  
MARRIAGE AND THE FAMILY (3CR)**

This is an examination of the institutions of marriage and family. It will emphasize changing roles, family formation, socialization, domestic conflict, interaction among family members and marriage partners, and the relationship among marriage and family and 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 will be examined as well as social welfare as a response to social deprivation. 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 the field of social work will be analyzed. 3 hrs./wk.

**SOC 152  
PERSPECTIVES ON AGING (3CR)**

The social aspects of aging will be identified in this class. Areas of special interest include research themes and demographic trends, aging and its relationship to family, economy, politics, religion and education, the effect of cultural values on behavior, and the future of the elderly. 3 hrs./wk.

## **SPEECH**

**SPD 120  
INTERPERSONAL COMMUNICATION (3CR)**

In this basic speech course, students will study the 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 is stressed. 3 hrs./wk.

**SPD 121  
PUBLIC SPEAKING (3CR)**

This fundamental speech course emphasizes 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 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, perception, and various types of speaking including impromptu, informative, and persuasive speaking. Emphasis will be placed on the natural relationship which exists between one-to-one and public communication. 3 hrs./wk.

**SPD 130****ELEMENTARY DEBATE (3CR)**

Theories of argumentation and debate will be introduced. Students will attend 2-8 weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

**SPD 132****INTERMEDIATE DEBATE I (3CR)**

*Prerequisite: SPD 130 or equivalent*

This is a continuation of argumentation and debate theories. Students will attend 2-8 weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

**SPD 230****INTERMEDIATE DEBATE II (3CR)**

*Prerequisite: SPD 132 or equivalent*

Intercollegiate debates will be stressed in this review of argumentation and debate theories. Students will attend 2-8 weekend debate tournaments a semester. 3 hrs./wk.

**SPD 235****ADVANCED DEBATE (3CR)**

*Prerequisite: SPD 230 or equivalent*

Students will participate on the senior level in intercollegiate debate, attending 2-8 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 will also discuss theater practices, dramatic literature and history of the theater. 3 hrs./wk.

**THEA 123****IMPROVISATION FOR THEATER (1CR)**

Theater improvisation will be introduced in this class which emphasizes creative stage activities not requiring a written script. 1 hr./wk.

**THEA 125****CHILDREN'S THEATER I (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 consist of shows presented 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****THEATER PRACTICUM I (2CR)**

Students can gain practical experience in technical theater techniques in this class. 4 hrs. lab/wk.

**THEA 135****MAKE-UP (1CR)**

Students will study and practice applying stage makeup. 1½ hr. lecture, 1½ hr. lab/wk. for 5 wks.

**THEA 137****LIGHTING (1CR)**

Students will study and practice handling stage lighting. 1½ hr. lecture, 1½ hr. lab/wk. for 5 weeks.

**THEA 140**  
**BASIC STAGECRAFT (1CR)**

This course provides students with stagecraft theory as well as practical experience in building and painting stage scenery. 1½ hr. lecture, 1½ hr. lab/wk. for 5 wks.

**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**  
**THEATER PRACTICUM II (2CR)**

*Prerequisite: THEA 133*

This class provides additional practice in technical theater techniques. 4 hrs. lab/wk.

**THEA 240**  
**COSTUMING (1CR)**

Students will study casting and practice creating costumes. 1½ hr. lecture, 1½ hrs. lab/wk. for 5 wks.

**THEA 243**  
**SET DESIGN (1CR)**

Students will study set design and practice designing stage sets. 1½ hr. lecture, 1½ hr. lab/wk. for 5 wks.

**THEA 255**  
**CHILDREN'S THEATER II (3CR)**

*Prerequisite: THEA 135*

Students experienced in performing for children will adapt plays and focus on techniques such as mime, puppetry, improvisation and choral readings. Students will prepare material of their own selection and adapt it to the needs of the class and the audience. Performances will be presented to area grade school children. 3 hrs./wk. plus rehearsals and performances.

**THEA 258**  
**THE SHAKESPEARE PLAYS (3CR)**

This course is an introduction to the plays of Shakespeare. Students will read and view on cable television selected plays.

**THEA 298**  
**BACKSTAGE ON BROADWAY (2CR)**

In this travel-for-credit course, students will have a week of intensive study on professional New York theaters. The course will involve five 1-hour sessions on campus and five full days of study on location in New York City. Sessions on campus will cover such units 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.





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# STAFF



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# JCCC CAMPUS MAP

