**JCCC Campus Map**

**GEB General Education Building:** Administrative offices; general classrooms; lecture hall/little theatre; faculty offices; seminar rooms; business management labs; admissions and records; counseling; business office; testing/assessment center; special services; career planning and placement center; financial aid.

**EMC Educational Media Center:** Library, production area for graphics, television, photography and printing; faculty offices; general classrooms; commercial art program, electronics lab; learning center; language labs; writing center; drafting; data processing.

**SCI Science and Technology Building:** General classrooms; labs for life science, chemistry, physics and nursing; dental hygiene clinic; faculty offices; music; police academy; lecture halls; personnel office.

**CSB Campus Services Building:** Security, maintenance office and shops; vehicle repair area; central warehouse; air conditioning and electrical equipment rooms; purchasing.

**GYM Gymnasium:** Three basketball cross-courts which can be converted to an arena or auditorium; physical education facilities including a weight room and wrestling room; general classrooms; faculty offices. Outdoor activities: playing fields, tennis and racquetball courts and jogging trail located adjacent to GYM.

**COM Commons:** Bookstore, food service; recreational facilities; lounges and meeting rooms; faculty offices; hospitality management program, foundation office, institutional research, math resource labs, general classrooms; child play center.

**ATB Arts and Technology:** Arts programs, including drawing, painting, sculpture, ceramics, silversmithing and photography; gallery display area; technology programs, including energy, construction and maintenance, and automotive technologies; general classrooms; faculty offices; engineering and technology division office.

**LRB Little Red Barn:** Historical landmark and space for equine studies.
CATALOG
1982-83

Johnson County Community College
12345 College at Quivira
Overland Park, KS 66210

NON-DISCRIMINATION NOTICE
Johnson County Community College is committed to a policy of non-discrimination on the basis of race, age, sex, religion, color, national origin, creed, handicap, marital or parental status in admissions, educational programs or activities and employment, as specified by federal and state laws and regulations. Inquiries may be addressed to: Dr. Glen E. Gabert, Director, Institutional Planning and Development, Johnson County Community College, 12345 College at Quivira, Overland Park, Kansas 66210, (913) 888-8500, or Director, Office of Civil Rights, HEW, Washington, DC 20201.

This catalog becomes effective July 1, 1982.

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 this catalog.

©1982 JOHNSON COUNTY COMMUNITY COLLEGE
Welcome!

In just 14 years, Johnson County Community College has grown from a collection of temporary buildings to the largest community college in the state. This growth is a tribute to the mission of the College — providing life-long learning opportunities for every member of the community. This mission has been translated into a strong, two-year baccalaureate program that permits individuals to complete the first two years of most four-year college degree programs; into more than 35 career/vocational programs that prepare people for immediate employment or that help them update job skills or retrain for other jobs; and into more than 400 non-credit continuing and community education programs designed to help adults meet their personal educational needs.

As president of Johnson County Community College, let me assure you that while growth and accomplishment are important to us and to you, so is quality. We have taken great care to put together a highly qualified professional faculty and staff who are truly concerned with you and your goals.

Sincerely,

Charles J. Carlsen
President
Johnson County Community College

About the College

History

A little over 15 years ago the citizens of Johnson County made history when they created Johnson County Community College. What they envisioned was a school that would grow as the community grew and that would meet the changing needs of all its citizens.

Today JCCC is the largest of the 19 community and junior colleges in Kansas and has a reputation as a leader in community colleges across the nation.

The story of the creation of JCCC is the story of commitment of the citizens in Johnson County to the principle of life-long learning for a student body made up of all the citizens of the community.

In July of 1963, the Board of County Commissioners of Johnson County appointed a committee of 18 residents to explore the feasibility of a county community college. Their study and research was expressed in a unanimous recommendation in December 1966, that the college be established.

The next step was the formation of the Citizen’s Action Committee to secure support from citizens and educational leaders for the formation of a community college district to be governed by six trustees elected at large.

JCCC became the first new college recommended for creation under the Community Junior College Act of 1965. The idea became a reality when JCCC was formally established after a county-wide referendum approved the idea by nearly a 3-1 margin.

Four months later the first Board of Trustees was elected and charged with deciding what kind of school was best for the community, finding a president and beginning to build a campus. Soon 1,380 students were attending classes in an assortment of rented warehouses, church basements and a 75-year-old elementary school.

The present campus was completed in 1972 — six buildings housing 384,530 square feet of space on more than 200 acres of prairie grassland. A new building, the Arts and Technology Building, was added in 1981.

The real story of JCCC, however, is lodged in its programs and classes. JCCC offers more than 35 career programs and more than 400 separate courses in general studies, communications, mathematics, the humanities, the natural and social sciences and in community and continuing education.

JCCC’s open-door admissions policy and quality programs attract 7,000 students each year and more than 15,000 participants in community service and continuing education programs and events.

When it’s all added, the success of Johnson County Community College is an expression for the conviction that JCCC and the community which began and supports it are united in commitment to life-long learning for everyone.

Mission

Johnson County Community College primarily serves the residents of Johnson County, and:

Provides lifelong learning services;

Stays abreast of educational needs of the community;

Provides freshman and sophomore level courses;
Encourages the integration of liberal education and vocational skills;
Provides unique services for the handicapped, especially the hearing impaired;
Provides educational enrichment programs;
Arranges cultural and international events for the benefit of the community;
Counsels students making educational decisions;
Counsels individuals making vocational and life decisions;
Helps individuals find job placements;
Provides facilities for recreation, cultural and educational activities;
Maintains an open-door policy for college admission (may have specific requirements for individual programs);
Provides technical, para-professional and professional programs needed in the community;
Provides support services to local business, government, industry and community organizations through utilization of the college facilities and talents of staff and students;
Holds forums, conferences, institutes, short courses.

**League for Innovation**

Johnson County Community College is a member of the League for Innovation in the Community College. League membership includes 17 of the most innovative community college districts in the nation. The stated aim of the League for Innovation is to encourage and evaluate innovation and experimentation designed to improve all aspects of College operation.

**KCRCHE**

JCCC is a member of the Kansas City Regional Council for Higher Education (KCRCHE), a cooperative of 17 colleges and universities in the Kansas City area. These institutions work together to extend the resources available to their students and to provide quality educational services.

KCRCHE's current program emphasis is on professional development, enrollment development and resource-sharing, but KCRCHE maintains a variety of specific programs and assists member institutions with a wide range of programs through which they can share information and ideas.

**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; Medical Record Technology – American Medical Association and American Medical Records Association; Mental Health Technology and Nursing programs – 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.

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**Board of Trustees**
Academic Calendar

SUMMER SESSION 1982
REGULAR AND MINI SESSIONS
July 1  First four-week mini session ends.
      5  Independence Day holiday. Classes not in session. College offices closed.
      29  Eight-week summer session and second mini session end.

FALL SEMESTER 1982
Aug. 19  Fall semester begins. First day of credit classes.
Sept. 6  Labor Day. Classes not in session. College offices closed.
Nov. 25-26  Thanksgiving holiday. Credit classes not in session. College offices closed.
Dec. 20  Last day of fall semester classes.
Dec. 23-Jan. 1  Christmas and New Year's holidays.

SPRING SEMESTER 1983
Jan. 3  Spring mini session classes begin.
       14  Last day of spring mini session classes.
       17  Spring semester begins. First day of credit classes.
March 14-19  Spring recess. Credit classes not in session.
                College offices open.
May 20  Commencement.
       23  Last day of spring semester classes.
       30  Memorial Day. Classes not in session. College offices closed.

SUMMER SESSION 1983
REGULAR AND MINI SESSIONS
June 4  Summer mini session ends.
       6  Summer session and first four-week mini session classes begin.
       30  First four-week mini session ends.
       5  Second four-week mini session classes begin.
       29  Eight-week summer session and second four-week mini session end.
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Admissions

Admission Procedures
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ADMISSION PROCEDURES

Can anyone go to Johnson County Community College?
Admission is open to all persons 18 years of age or older or anyone who has completed a high school education or equivalent and who may benefit from college-level instruction. The only exception is high school students who must have written approval from their high school principals. Non-residents of Johnson County may be accepted on a space-available basis.

Admission to JCCC does not guarantee enrollment in any specific program. JCCC may deny admission or re-admission to anyone considered detrimental to the best interest of the college community.

How do I apply for admission?
If you are enrolling 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 your high school transcripts. Request that your high school send your transcripts directly to the JCCC Admissions/Records Office. You do not need to submit high school transcripts if you have been out of high school five years or more.

3. Provide your college transcripts if you are transferring to JCCC from another college. Request that all the institutions you have attended in the past mail your transcripts directly to JCCC Admissions/Records Office. Your transcript record at JCCC will be withheld if your transcripts are not submitted.

4. Determine if you are a resident or non-resident. Kansas law requires that you live in the state six months before you are considered a resident. Non-residents at JCCC must pay out-of-state tuition and fees—$52.50 per semester credit hour. If you have questions about residency requirements, see the director of Admissions/Records.

5. Provide your American College Testing (ACT) scores. You are encouraged—but not required—to submit your ACT scores unless you are entering the Nursing or Dental Hygiene career programs. Both those programs require you to submit ACT scores by Feb. 15, 1983. If you plan to submit your scores, take the ACT test as early as possible and request that your scores be sent to JCCC. ACT scores also are required for all students enrolling in any English courses.

6. If you are enrolling in any mathematics course, you will be required to take a mathematics assessment test.

7. Fulfill any special entrance requirements of the career program you plan to enter. Contact the career program coordinator, counselors or the Admissions/Records Office for complete details.

REGISTRATION

After I am admitted, how do I register for classes?
Registration at JCCC is easy. First, you need to meet with your JCCC counselor to develop an educational plan. Your counselor will tell you about prerequisites for courses, the transferability of courses and the sequence in which you should take them.

After your questions have been answered and your plan developed you are ready to register. The exact time and day you must 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 you need to follow. You must pay all tuition and fees at the same time you register!

Can I take advantage of early registration?
Early registration is open to students who have submitted admission applications or who are currently enrolled. During early registration, you may register over the phone at times specified in the Early Registration schedule available in the Admissions/Records Office. See the schedule for complete details.

TUITION AND FEES

Kansas residents:
Tuition ...........$15.00 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 ..............$17.50

Out-of-state and foreign students:
Tuition ...........$50.00 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 .............$52.50

The JCCC Board of Trustees has the right to change these tuition and fees. Changes in tuition or fees will be published before they are effective.

Some of your courses may require fees in addition to tuition. Check the Credit Class Schedule, where any additional fees will be listed. Pay all tuition and fees in the Business Office.

Remember, you must pay all tuition and fees when you enroll. You may not graduate or have a transcript issued until all your tuition and fees are paid.
REFUNDS
Will I get a refund if a class is canceled or if I withdraw?
You will get a full refund of tuition and fees if JCCC exercises its right to cancel a class. If you withdraw from a class, you may get a partial refund. Apply for a refund through the Admissions/Records Office by presenting your validated copy of the registration form and completing a drop form. If you have completed registration and you withdraw from a class or classes in which you are enrolled, you will receive the following refund:
• 100% of tuition and fees paid if your 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 paid if your withdrawal is processed by the Admissions/Records Office:
  • within two weeks after the beginning of classes for fall and spring semesters
  • 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 in 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 you will receive a 100% refund of tuition and fees. Your refund is calculated based upon the day you officially drop the class in the Admissions Office and not when you stop attending the class.

OTHER INFORMATION
How much will my textbooks cost?
Your textbooks probably will cost from $100 to $150 per semester. You may purchase your textbooks at the JCCC Bookstore, located in the College Commons.

Who do I notify if I change my name or address?
Notify the Admissions/Records Office immediately by submitting in writing your old and new name or address. If you don’t alert the Admissions/Records Office of the change, you may miss important College mailings.

Does JCCC offer summer sessions and mini sessions?
JCCC offers both summer sessions and mini sessions each year. For more information contact the Admissions Office.

JCCC also offers Weekend College designed for students who are unable to attend classes during the week. The courses, held on Friday evenings and Saturdays, are part of the fully accredited two-year curriculum at JCCC. It is possible to earn an associate of arts degree in four years through this program. Contact the dean of Student Services for more information.

SPECIAL STUDENTS AT JCCC
Foreign Students
If you are a foreign student, you need to apply for admission and supply required documents within these deadlines:
June 1, if you are applying for fall semester
Oct. 1, if you are applying for spring semester
March 1, if you are applying for summer session
You also must take the Test of English as a Foreign Language (TOEFL).
If you are transferring to JCCC from another institution, file all additional documents at least one month before classes begin. For more information, contact the director of Admissions/Records.

Resident Aliens
JCCC is required by federal law to enroll non-immigrant alien students. You must establish your status as a resident alien when you apply by providing your Resident Alien card number. You also are required to meet with a counselor for academic evaluation and course placement.

High School Seniors
If you are a high school senior, you may be eligible to earn college credit now through JCCC’s QUICK STEP program. You should have completed at least 15 units to be eligible. If you are interested in JCCC’s QUICK STEP program, contact your high school counselor or JCCC’s director of Admissions/Records.

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. The buildings are equipped with ramps, elevators and restrooms designed to accommodate wheelchairs. Parking areas convenient to the buildings are reserved for disabled students. If you would like more information about services, activities and facilities available to disabled students, contact the director of Special Services.
Veterans

If you are a veteran, you may be eligible for educational benefits under the G.I. Bill of Rights. And if you are planning to attend JCCC, you must establish your eligibility by completing the appropriate forms in the JCCC Financial Aid Office.

The benefits you will receive will be based on this schedule:

Credit Hours Enrolled* You Will Be Eligible For:
12 or more semester hours .......... full time benefits
9-11 semester hours .................. 3/4 time benefits
6-8 semester hours ................... 1/2 time benefits
1-5 semester hours ................... tuition and fees
*Fewer hours needed for benefits during summer semester. Check with the Financial Aid Office.

Before you register, your courses and program must be approved by the JCCC Financial Aid Office. Remember, you must attend all your classes regularly and sign in monthly at the Financial Aid Office in order to receive educational benefits.

JCCC assesses your financial need through a fair, objective form called the Family Financial Statement provided by the American College Testing Program. If you are applying for financial aid you should submit a completed Family Financial Statement and the required fee to the office designated on the form. Family Financial Statement forms are available in the Financial Aid Office.

If you are financially independent of your parents, you should follow the same financial procedure as other students, but you are not required to provide financial information about your parents.

How do I apply for financial aid?
First, complete an application for admission to JCCC and fulfill all admission requirements. Then contact the Financial Aid Office for the appropriate application form. You should submit financial aid applications by June 1 for the fall semester and by Dec. 1 for the spring semester. Your aid application is complete only when you have provided all the required forms and validation documents.

How will I know if I am awarded financial aid?
You will be notified through the mail as soon as possible.

What types of aid are available?
- Pell Grant (formerly Basic Grant or BEOG): The Pell Grant is funded by the federal government. If you are eligible, you can receive up to $900 for the academic year at JCCC. The grant can apply toward any educationally-related expenses.
- Supplemental Educational Opportunity Grants (SEOG): This government grant ranges from $200-$2000 and can apply toward any education-related expenses. You are eligible if you can show need.
- National Direct Student Loan (NDSL): This federal government loan is processed through JCCC. The loans range from $200-$1500 a year. You may borrow a maximum of $3000 while enrolled at JCCC. The loan is interest-free while you are enrolled at least half-time. Six months after you leave JCCC, five percent interest begins to accrue and you must begin repaying the loan at $30 a month.

FINANCIAL AID

Does JCCC offer financial aid to its students?
JCCC makes available grants, scholarships and long-term and short-term loans to both full-time and half-time students. Some part-time employment opportunities also are available to students, depending on availability of jobs.

How is financial need determined?
Most financial aid is awarded to students who show financial need. Your financial need is based on the amount of money your parents (and/or you) should be able to contribute to your educational costs at JCCC.

The Financial Aid Office will make every effort to meet the financial needs of each qualified student. JCCC's ability to meet each student's financial need is based on the availability of local, state and national funds.
• **Board of Trustees Grant (BOT):** The Board of Trustees grants are financial awards made to JCCC students who are or who will be enrolled in a minimum of six credit hours. Only Johnson County residents are eligible. The grants, which are designed to help defray school costs, are authorized by the JCCC Board of Trustees. Funds are limited and competition is keen.

• **Foundation Grants:** You must fulfill unique qualifications before you are awarded this grant which is administered by the JCCC Foundation. For a list of these grants and their special qualifications, contact the Financial Aid Office.

• **College Work Study Program:** In this federally-funded program, students work part-time on campus. The pay is $3.50 per hour and paychecks are issued every other Friday.

• **Guaranteed Student Loan (GSL):** This loan is from a bank, savings and loan, or credit union. The loan is interest-free as long as you are enrolled at least half-time. Six months after you leave school you must begin repaying the loan. Interest is nine percent and the minimum monthly payment is $50. The maximum loan is $2500. A five percent origination fee will be deducted from the proceeds of the loan at the time of disbursement.

• **PLUS Loan:** This loan is administered by a bank, savings and loan or a credit union. Eligible independent students or parents of dependent students may borrow up to $2500. Interest is 14 percent. You must begin repaying the loan at $50 per month 60 days after you receive the check. If you are enrolled full-time, you can defer the principal. However, interest accrues and is payable.

**When will I receive the funds?**

No funds will be disbursed to students until the first day of classes.

There are no tuition waivers, book waivers or partial payment plans. However, if you cannot pay your fee when you register and you are an APPROVED FINANCIAL AID RECIPIENT, you can get a tuition deferment form from the Financial Aid Office. By presenting this form to the cashier in the Business Office, you can keep your registration valid until you receive your aid check.

If you have not signed and returned your offer of financial assistance or you registered during on-campus registration, you must pay for your tuition and fees according to the payment policy.

**What effect will my grades have on my financial aid?**

The Pell Grant, NDSL, SEOG, CWSP, PLUS Loan and GSL require that you meet these academic standards to continue to receive financial aid:

1. You must complete at least six credit hours a semester.
2. You must maintain a cumulative grade point as follows:

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<tr>
<td>6-15 credit hours</td>
<td>1.25</td>
</tr>
<tr>
<td>16-34 credit hours</td>
<td>1.65</td>
</tr>
<tr>
<td>35-44 credit hours</td>
<td>1.75</td>
</tr>
<tr>
<td>45-64 credit hours</td>
<td>2.00</td>
</tr>
</tbody>
</table>

If you do not meet these standards, your financial aid will be discontinued. You also will lose your financial aid if you receive all F's, W's or N's. Your financial aid will be reinstated once you meet these standards.

You may remain at JCCC if you fail to meet the standards listed above, but you will not receive financial aid.
Academic Information

Attendance
Courses by Arrangement
Independent Study
Travel for Credit
International Education
Advanced Standing Credit
KCRCHE
Grading System
Honors
Academic Progress
Graduation Information
Degree/Certificate Information
ACADEMIC INFORMATION

Attendance
You are responsible for regularly attending the classes and laboratory sessions in which you enroll. There is no policy which permits your grades to be lowered for non-attendance. However, your instructors may consider class participation, examinations and group work when determining your final grade. If you must fulfill special attendance requirements to satisfactorily complete a class, your instructor will inform you in writing at the beginning of the semester. When you are absent from class, you still will be responsible for making up any work or assignments you miss. If you are receiving benefits from a government agency, you 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. You may complete a course by arrangement out of the classroom and on a schedule you arrange with an instructor. Before you enroll in a course by arrangement, contact the instructor (or the division director if the instructor is unavailable) who can tell you how much instructor contact the course requires and how your performance will be measured. See the Credit Class Schedule for the courses available by arrangement each semester.

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 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.

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.

Travel for Credit
In a travel-for-credit class, you may earn from one to three 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.
Advanced Standing Credit
If you have become knowledgeable in a particular area through self study, work experience or courses, you may be eligible to receive advanced standing credit. You may receive up to 30 hours of credit for non-classroom experiences. There are several ways to do it. For complete details, including scores required, contact the Testing/Assessment Center.
You may gain credit through CLEP if you have knowledge of general information equivalent to that of a college freshman. The subject examination tests you in a specific area. Anyone may take the CLEP, regardless of age or education. If you’re interested in taking the CLEP exam, apply at the Testing/Assessment Center.

• College Entrance Examination Board (CEEB): The CEEB test is offered at high schools during the third week of May. You will be granted advanced standing credit if you score 3, 4 or 5.

• Credit by Examination: You may receive college credit through successful performance on a comprehensive examination. The exam may be a locally-developed departmental exam or a nationally-standardized exam. Credit by examination is not available for all courses offered at JCCC. You will be charged a fee to take the examination. Contact the Testing/Assessment Center for more information.

• Military Service: You will be granted six semester hours of health and physical development credit at JCCC by presenting when you apply a copy of Form DD-214 if you are discharged or Form D-295 if you are active. You may be granted credit for military educational experiences based upon the recommendations of the Commission on Accreditation of Service Experiences which is approved by the American Council on Education. Your military service educational experience must be similar to course work offered at JCCC. Military educational experience applications are available in the Admissions/Records Office.

• Experience Based Education: Your life experiences (work or personal), or your experience in area vocational-technical schools or proprietary schools also may earn you credit. Contact the Testing/Assessment Center if you think you qualify. You will be charged a non-refundable fee upon application.

• Credit transferred from other colleges: You may apply up to 45 hours of credits you earned at another college toward an associate of arts degree. Credit will not be awarded for courses you repeat at JCCC. JCCC is unable to evaluate transfer credit from foreign colleges and universities attended by resident aliens. The director of admissions, records and financial aid will determine the final evaluation and acceptance of transfer credit.

Transfer credit is accepted from institutions accredited by or holding candidacy status in the North Central Association of Colleges and Schools, Middle States Association of Colleges and Schools, Northwest Association of Schools and Colleges, Southern Association of Colleges and Schools—Commission on Colleges, and the Western Association of Schools and Colleges.

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 of 16 colleges and universities in the Kansas City area. Johnson County Community College 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 you 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 and financial aid. Additional information is available through the Office of the Regional Council, 912 E. 63rd Street, Kansas City, Missouri 64110, phone 361-4143.

Grading System
JCCC uses both the regular grading system and the credit/non-credit grading system.

Regular Grading System
JCCC uses these grades to indicate how well you achieved 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
N – no credit, unsatisfactory achievement
W – withdrawal, without academic assessment (You may withdraw from a class up to one week before the last day of the semester. You will receive a “W” on your transcript if you withdraw after the official state reporting date of the 20th day of class and after one fourth of the summer or mini session has been completed. You will be considered withdrawn from a class only after you have completed the drop form in the Admissions/Records Office – not when you stop attending class.)
Here are the grades you may earn:
- S – credit earned
- N – no credit
- W – withdrawn

You need a counselor's approval before you choose the credit/non-credit grading system. Usually, you may enroll in only one course a semester under this option. If you choose this option, you must complete a form in the Counseling Center before the ninth week of the semester.

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

1 – incomplete – You will receive this grade only if special circumstances prevent you from completing the course. Your instructor can explain how to complete the course. Usually you do not have to re-enroll in the class, but you will have to complete all course work by the end of the following semester. (An "I" will be changed to "N" 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 you repeat a course, only the later credit and grade you earn will be used in computing your grade point average. The earlier grade for the course will be changed to "R.")

Credit/Non-Credit Grading System
You may wish to choose the credit/non-credit option if you want to explore courses outside your usual range of subject matter.

Your transcript will indicate courses you complete under this option, but grades you earn will not be computed in your grade point average.

Grade Point Average
- A – 4 grade points per semester credit hour earned
- B – 3 grade points per semester credit hour earned
- C – 2 grade points per semester credit hour earned
- D – 1 grade point per semester credit hour earned

The total grade points you accumulate are divided by the total semester credit hours you successfully complete, excluding the semester credit hours for which an "S," "W," or an "N" were assigned. The result is your accumulated grade point average.

Honors
You will receive Dean's honors if you complete a minimum of 12 credit hours and earn an overall grade point average of 3.0 or higher during any semester. You will receive President's honors if you maintain an average of 3.5 or above. Honors notification will be indicated only on your final grade card.
Academic Progress
If you are not making satisfactory academic progress, contact your counselor. A counselor will help you reassess your program, motives, interests and aptitudes and help you decide whether you should change your program or get additional assistance.

Here are JCCC's guidelines for "satisfactory academic progress:"

<table>
<thead>
<tr>
<th>Completion of</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 credit hours</td>
<td>1.25</td>
</tr>
<tr>
<td>30 credit hours</td>
<td>1.65</td>
</tr>
<tr>
<td>45 credit hours</td>
<td>1.75</td>
</tr>
</tbody>
</table>

Graduation with Honors
You will graduate "with honors" if you earn an overall grade point average of 3.5 or more in all courses that apply to your degree.

Certificate Program
You will be awarded a certificate of completion if you successfully complete a Board of Trustees-approved program that usually takes more than one year to complete and if you maintain a cumulative grade point average of 2.0 in prescribed course work. Usually, you will be awarded a certificate of completion when you complete any of these programs:

- Automotive Technology
- Construction and Maintenance
- Emergency Medical Technology
- Emergency Services Dispatcher Certification
- Energy Technology
- Fire Administration
- Fire Prevention
- Fire Protection
- Fire Administration
- Home Economics
- Hospitality Management
- Interior Merchandising
- Medical Transcription
- Paralegal
- Recreational Leadership
- Riding Instructor
- Secretarial

Associate of Arts Degree
You must successfully complete a minimum of 60 semester credit hours in an approved program with a cumulative grade point average of 2.0 to earn an A.A. degree. You must earn a minimum of 15 of those credit hours in residence at JCCC and be currently enrolled during the term in which you wish to graduate. Credits earned through non-classroom experiences are not considered resident credits.

*An approved program is one you develop and your counselor approves to meet your requirements for graduation.

Intent to Graduate
You must file written notice of intent to graduate in the Admissions/Records Office by the following dates:

- Oct. 1 for fall graduation
- Feb. 1 for spring graduation
- July 1 for summer graduation

Appeal to the director of Admissions/Records if you wish to extend these deadlines.

Commencement Exercises
Your degree status will be included on your permanent record as soon as you meet the graduation requirements and you will receive a diploma.
Programs of Study

Transfer Career
UNIVERSITY TRANSFER PROGRAM

JCCC offers the first two years of most college baccalaureate degree programs. You can attend JCCC for your first two years, earn an associate of arts degree, and then transfer to a four-year institution without loss of time or credit. You can do this by following a transfer program.

If you plan to transfer after two years but you have not decided on a major, you should complete the general education courses required by most colleges.

If you have decided on a major, look closely at the four-year school's graduation requirements for that major. Some majors, such as architecture, fine arts and engineering, may require a special sequence of courses.

Carefully plan your first semester of courses with a JCCC counselor to make sure your courses transfer.

SAMPLE PROGRAM

The following is an example of a first-year program plan for a liberal arts transfer student. This is only an example and your own program could look different. If you are interested in architecture, fine arts, engineering, science or medicine, talk with a counselor.

### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>Social Science elective</td>
<td>3</td>
</tr>
<tr>
<td>Math/Natural Science elective</td>
<td>3-5</td>
</tr>
<tr>
<td>Humanities elective</td>
<td>3</td>
</tr>
<tr>
<td>General elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>15-17</strong></td>
</tr>
</tbody>
</table>

### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>Speech elective</td>
<td>3</td>
</tr>
<tr>
<td>Math/Natural Science elective</td>
<td>3-5</td>
</tr>
<tr>
<td>Social Science/Humanities elective</td>
<td>3</td>
</tr>
<tr>
<td>General elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>15-17</strong></td>
</tr>
</tbody>
</table>

### Samples of Majors

#### Business
- Accounting
- Business Administration
- Management
- Computer Science
- Information Systems

#### Education
- Early Childhood
- Elementary/Secondary
- Physical Education
- Recreation

#### Engineering
- (Pre-Engineering)
  - Architecture
  - Chemical Engineering
  - Civil Engineering
  - Electrical Engineering
  - Mechanical Engineering
  - Petroleum Engineering

#### Home Economics
- Interior Design
- Fashion Marketing
- Dietetics

#### Liberal Arts
- Art
- English
- Foreign Language
- Journalism
- Music
- Philosophy
- Speech
- Theater

#### Medicine and Health
- Pre-Veterinary
- Pre-Med
- Pre-Pharmacy
- Pre-Dental
- Nursing
- Physical Therapy
- Respiratory Therapy

#### Social Science
- Economics
- History
- Political Science
- Psychology
- Social Work
- Sociology

#### Science and Math
- Biology
- Chemistry
- Geology
- Mathematics
- Physics

### GENERAL ELECTIVES

You may select an elective course from any area. However, check with a counselor first to make sure the course will transfer to a four-year school. You may use electives to broaden your knowledge of your field of study or as an opportunity to explore a new area of interest.
A SAMPLE FOUR-YEAR DEGREE
(May vary with major. See a counselor.)

<table>
<thead>
<tr>
<th>Total 124-128 hours</th>
<th>General Requirements</th>
<th>Distribution Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English</td>
<td>Math</td>
</tr>
<tr>
<td>1st Two Years</td>
<td>Oral Comm.</td>
<td>Humanities</td>
</tr>
<tr>
<td>(First 60-64 hours</td>
<td>Foreign Language</td>
<td>Natural Science</td>
</tr>
<tr>
<td>which may be taken</td>
<td>(required for</td>
<td>and Math (incl. Lab</td>
</tr>
<tr>
<td>at JCCC)</td>
<td>some degrees)</td>
<td>Sci)</td>
</tr>
<tr>
<td>2nd Two Years</td>
<td>Courses taken in</td>
<td>Upper division courses</td>
</tr>
<tr>
<td>(Remaining 60-64</td>
<td>major field</td>
<td>taken not in major field</td>
</tr>
<tr>
<td>hours)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Transfer Information
The following information on four-year colleges is available through the JCCC counseling center:
• transfer programs for different majors at area colleges – check these sheets periodically for updates
• university or college catalogs
• general information including tuition, financial aid, housing
• course equivalencies between the four-year colleges and JCCC

If you are planning to transfer, select courses from general and distribution requirement areas as illustrated above. These courses, also known as the general education requirements of baccalaureate (four-year) degrees, will come from five divisions listed below. The number of courses required in each division will depend on the college or university you are transferring to and the major field you are entering. Look closely at your major field requirements when choosing your classes.

The following course description suggestions may help. The sample program is intended only as a guide.

COMMUNICATIONS (3-4 courses)
CEN 7612 Composition I .................. 3
CEN 5732 Composition II ................ 3

The next 3-6 hours could be Speech and/or Literature depending on your major.
CSP 4130 Public Speaking .................. 3
CSP 4950 Interpersonal Communication ..... 3

Composition II is a prerequisite for the following literature and composition courses:
CEN 5581 Poetry and Drama ................ 3
CEN 3898 Introduction to Fiction .......... 3
CEN 5582 American Writers ................. 3
CEN 5585 Literature of Science Fiction .. 3
CEN 5583 World Masterpieces .............. 3
CEN 5584 Masterpieces of the Cinema ..... 3
CEN 5586 Children’s Literature .......... 3
CEN 5587 Adolescent Literature .......... 3
CEN 5577 Advanced Composition .......... 3
CEN 5579 Creative Writing ............... 3

Some degrees (B.A.) may require foreign language. JCCC offers four semesters/16 hours each of Spanish, French and German.
CFL 3285 Elementary Spanish I .......... 5
CFL 4570 Elementary French I .......... 5
CFL 3196 Elementary German I .......... 5

MATHEMATICS (1 course)
At least one math course is usually required. The required math assessment test available in the Testing Center will determine proper course selection.
MTH 7246 Introduction to Algebra* ........ 3
MTH 3001 Intermediate Algebra* ........ 3
MTH 6079 Algebra* ....................... 3
MTH 3427 College Algebra* ................ 3
MTH 2594 Trigonometry* .................. 3
MTH 6463 Calculus I* .................... 3
MTH 3268 Analytic Geometry & Calculus I* 3
*May not transfer to some four-year colleges.
*Check catalog for prerequisite.

HUMANITIES (2-3 courses)
You may use literature courses as humanities credits.
HUM 6120 Introduction to Humanities ..... 3
HUM 5431 Comparative Cultures .......... 3
CDR 1809 Introduction to Theater ...... 3
HAR 1713 Introduction to Art History .. 3
HAR 3878 Modern Art History ............ 3
HUM 8927 Intro. to Music Listening ..... 3
HUM 2777 Intro. to Jazz Listening ..... 3
HUM 7520 Introduction to Philosophy .. 3
HUM 6392 Logic ................................ 3
HUM 3080 Ethics ................................ 3
HUM 2532 Philosophy of Current Civilization 3
HUM 2541 Philosophy of Religion ....... 3
NATURAL SCIENCES (2-3 courses)
All schools require at least one lab science. Some majors require both a biological and physical science.

**Biological Sciences**

NLS  6540  Life Sciences (AVT Lab included)  . . . . 4
or
NLS  5020  Principles of Biology and  . . . . . . . . 3
NLS  5091  Principles of Biology Lab  . . . . . . . 1
NLS  5402  General Botany  . . . . . . . . . . . . . . . 5
NLS  4241  General Zoology  . . . . . . . . . . . . . . . 5
NLS  5593  Microbiology*  . . . . . . . . . . . . . . . 3
NLS  6057  Microbiology Lab*  . . . . . . . . . . . . 2
NLS  6186  Human Anatomy/Physiology  . . . . . . . 5
NLS  1128  Human Anatomy  . . . . . . . . . . . . . . . 4
NLS  1144  Human Physiology*  . . . . . . . . . . . . 4
NLS  6719  Environmental Science  . . . . . . . . . . . 3
NLS  6720  Environmental Science Lab  . . . . . . . 1
NLS  4248  General Genetics (no lab)  . . . . . . . . . 3

**Physical Science**

NPS  1031  Physical Science (AVT lab included)  . . . . 4
NPS  6070  Astronomy  . . . . . . . . . . . . . . . . . . . 4
NPS  4858  General Geology  . . . . . . . . . . . . . . . 5
NPS  6634  Principles of Chemistry  . . . . . . . . . . . 5
NPS  4515  General Chemistry I*  . . . . . . . . . . . . . 4
NPS  4516  General Chemistry I Lab*  . . . . . . . . . 1
NPS  3308  General Physics I*  . . . . . . . . . . . . . . . 4
NPS  5212  Engineering Physics I*  . . . . . . . . . . . . 4

*Check catalog for prerequisite.

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**SOCIAL SCIENCES (2-3 courses)**

History courses will transfer as humanities credits to some schools.

SS  3721  Physical Anthropology  . . . . . . . . . . . . 3
SS  3029  Cultural Anthropology  . . . . . . . . . . . . 3
SS  3404  Sociology  . . . . . . . . . . . . . . . . . . . . 3
SS  3428  Social Problems  . . . . . . . . . . . . . . . . . 3
SS  3716  Marriage and the Family  . . . . . . . . . . . 3
SS  1068  Introduction to Psychology  . . . . . . . . . . 3
SS  3546  Child Development*  . . . . . . . . . . . . . . 3
SS  4639  Personality and Adjustment*  . . . . . . . . . 3
SS  5663  Social Psychology*  . . . . . . . . . . . . . . . 3
SS  1456  Political Science  . . . . . . . . . . . . . . . . . 3
SS  3138  American National Government  . . . . . . . 3
SS  2678  State & Local Government  . . . . . . . . . . 3
SS  3852  Intro. to Comparative Governments*  . . . . 3
SS  2808  International Relations  . . . . . . . . . . . . . 3
SS  1055  U.S. History to 1877  . . . . . . . . . . . . . 3
SS  2000  U.S. History since 1877  . . . . . . . . . . . 3
SS  9922  European History from 1750  . . . . . . . . . 3
BUS  2004  Intro. to Economic Issues  . . . . . . . . . 3
BUS  2253  Economics I  . . . . . . . . . . . . . . . . . . . 3
BUS  3093  Economics II  . . . . . . . . . . . . . . . . . . . 3

*Check catalog for prerequisite.

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**CAREER PROGRAMS**

JCCC's career programs give you the opportunity to study a specific career and enter the job market directly.

Most of JCCC's 37 career programs can be completed in two years or less. There are a few you can complete in one year or less.
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.

If you decide on additional college work, many of the career program courses will transfer to four-year colleges and universities. Several of the career programs also offer you a chance to gain valuable work experience in the community while you study.

Contact the program coordinator or a JCCC counselor if you are interested in a career program or want more information. They can help you consider entrance requirements, course selection and sequence, and job possibilities. Remember, your careful planning and course selection can be just as important in a career program as your dedication in the classroom.

Accounting
Administration of Justice/Law Enforcement
Agribusiness
Automotive Technology
Biomedical Equipment Technology
Business Management
Chef Apprenticeship
Commercial Art
Construction and Maintenance Technology
Data Processing
Dental Assisting
Dental Hygiene
Drafting Technology
Electronics Engineering Technology
Energy Technology
Emergency Medical Technology
Equine Studies
Fashion Merchandising
Fire Protection & Public Safety
Home Economics
Hospitality Management
Interior Merchandising
Interpreter Training Program
Marketing and Management
Medical Laboratory Technology
Medical Record Technology
Medical Transcription
Mental Health Technology
Nursing (RN)
Paralegal
Physical Therapy Assistant
Radiologic Technology
Recreational Leadership
Respiratory Therapy
Secretarial Careers
Small Animal Health
Urban Agribusiness

Career programs are described in detail on the following pages, and in the career brochures available in the Admissions/Records Office. You are encouraged to talk with a counselor or program coordinator before you enroll.

NOTE:
(F) Offered fall semester only.
(S) Offered spring semester only.
(R) Offered summer semester only.
ACCOUNTING CAREERS

The accounting curriculum focuses on the skills you will need to enter the job market at a para-professional level after two years of post-high school study. The program also provides initial preparation for a bachelor’s degree. If you are enrolled in a transfer program, you should visit with a counselor about the transferability of courses. Transfer students do not need to take the Field Study courses.

Required Accounting and Business Courses Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAC 4092</td>
<td>Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1121</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>CEN 7612</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BAC 5096</td>
<td>Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BDP 7135</td>
<td>Bus. Data Processing or</td>
<td>3-4</td>
</tr>
<tr>
<td>BDP 6699</td>
<td>Program Fund</td>
<td></td>
</tr>
<tr>
<td>BAC 3870</td>
<td>FS Human Relations</td>
<td>2-3</td>
</tr>
<tr>
<td>BUS 3093</td>
<td>Economics II</td>
<td>3</td>
</tr>
<tr>
<td>BAC 3872</td>
<td>FS Business Math</td>
<td>2-3</td>
</tr>
<tr>
<td>BAC 3871</td>
<td>FS Accounting Seminar</td>
<td>2-3</td>
</tr>
<tr>
<td>BUS 1007</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BAC 6299</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>or BAC 2436</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>or BAC 4218</td>
<td>Account for Non-profit Organ</td>
<td>3</td>
</tr>
</tbody>
</table>

Required General Courses

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
<tr>
<td>Math</td>
<td>3</td>
</tr>
<tr>
<td>Humanities</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended Electives...........18

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 4282</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5134</td>
<td>Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>BAC 4063</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BAC 2436</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BAC 4218</td>
<td>Acct. for Nonprofit Org.</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2253</td>
<td>Economics I</td>
<td>3</td>
</tr>
<tr>
<td>BAC 6299</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BAC 6294</td>
<td>Intermediate Accounting II</td>
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<tr>
<td>BUS 6038</td>
<td>Savings and Investment</td>
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<tr>
<td>BUS 2239</td>
<td>Personal Finance</td>
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<tr>
<td>BUS 2341</td>
<td>Personnel Management</td>
<td>3</td>
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<tr>
<td>BUS 7007</td>
<td>Marketing</td>
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<tr>
<td>BAC 2360</td>
<td>Federal Income Tax I</td>
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TOTAL HOURS ..........................60

Associate of Arts Degree Credits

General Education Requirements 18

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CEN 7612</td>
<td>Composition I</td>
<td>3</td>
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<tr>
<td>CEN 5732</td>
<td>Composition II</td>
<td>3</td>
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<tr>
<td>SS 3404</td>
<td>Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SS 2678</td>
<td>State and Local Government</td>
<td>3</td>
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<tr>
<td>SS 1068</td>
<td>Introduction to Psychology</td>
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<tr>
<td>BSC 1263</td>
<td>Beginning Typing*</td>
<td>3</td>
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TOTAL HOURS ..........................60

Required Program Core Courses

<table>
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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>SLE 2090</td>
<td>Intro to Admin. of Justice</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7108</td>
<td>Study of Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td>SLE 1585</td>
<td>Criminology</td>
<td>3</td>
</tr>
<tr>
<td>SLE 4263</td>
<td>Crime Prevention</td>
<td>3</td>
</tr>
<tr>
<td>SLE 6432</td>
<td>Police and the Public</td>
<td>3</td>
</tr>
<tr>
<td>SLE 4588</td>
<td>Criminal Law**</td>
<td>3</td>
</tr>
<tr>
<td>SLE 4418</td>
<td>Constitutional Case Law**</td>
<td>3</td>
</tr>
<tr>
<td>SLE 6537</td>
<td>Fundamentals of Crim. Invest.**</td>
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TOTAL HOURS ..........................24

Required Program Electives (12 hours—any 4 courses)

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>SLE 3166</td>
<td>Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7288</td>
<td>Defensive Tactics for Police**</td>
<td>3</td>
</tr>
<tr>
<td>SLE 2461</td>
<td>Motor Vehicle Law</td>
<td>3</td>
</tr>
<tr>
<td>SLE 6653</td>
<td>Traffic Safety/Accident Invest.</td>
<td>3</td>
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<tr>
<td>SLE 4033</td>
<td>Patrol Procedures</td>
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<tr>
<td>SLE 7292</td>
<td>Intro to Criminalistics</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7161</td>
<td>Supervisory Techniques</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7454</td>
<td>Police Organization &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>SLE 1174</td>
<td>Readings in Police Science</td>
<td>3</td>
</tr>
<tr>
<td>SLE 5006</td>
<td>Fundamentals of Private Security</td>
<td>3</td>
</tr>
<tr>
<td>SLE 4163</td>
<td>Retail Security</td>
<td>3</td>
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</table>

Correctional Services Offered at Longview College

Through a cooperative agreement with Longview Community College, you may take all or some of their 12 program elective credits in Correctional Services. The following courses are taught at Longview. You can register for them at JCCC, pay resident fees and have them listed on your JCCC transcript.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SLE 7581</td>
<td>Principles of Corrections</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7580</td>
<td>Corrections in the Community</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7582</td>
<td>Correctional Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7583</td>
<td>Theory of Child Care Work in Residential Treatment</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7584</td>
<td>Methods of Interacting with Emotionally Sensitive Children</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7585</td>
<td>Internship in Corrections I</td>
<td>3</td>
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<tr>
<td>SLE 7586</td>
<td>Internship in Corrections II</td>
<td>3</td>
</tr>
<tr>
<td>SLE 7587</td>
<td>Correctional Administration</td>
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Emergency Services Dispatcher Certification

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>SLE 7108</td>
<td>Study of Crim. Justice System</td>
<td>3</td>
</tr>
<tr>
<td>SLE 6432</td>
<td>Police and the Public</td>
<td>3</td>
</tr>
<tr>
<td>SLE 4033</td>
<td>Patrol Procedures</td>
<td>3</td>
</tr>
<tr>
<td>BSC 1263</td>
<td>Beginning Typing*</td>
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</tr>
<tr>
<td>BSC 2376</td>
<td>Intermediate Typing</td>
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</tr>
</tbody>
</table>

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AGRIBUSINESS

JCCC's two year program emphasizes a familiarity with agribusiness practices, sound business skills, basic knowledge about animal and plant science, and other skills you will need for most entry-level positions in the field. The program includes courses in agriculture, business, science, and general education. The program also offers an internship program through which it's possible to gain hands-on experience working in the field.

Associate of Arts Degree
First Semester
NAB 2853 Intro to Agribusiness .......... 2
MTH 3427 College Algebra ............... 3
NLS 5402 General Botany ................. 5
or
NLS 4241 General Zoology ............... 5
CEN 7612 Composition I ................. 3
Humanities or Social Science elective .... 3
TOTAL HOURS .................. 16

Second Semester
NAB 2852 Plant Science ................. 4
or
NAB 2848 Prin. of Animal Science ....... 4
NPS 6634 Principles of Chemistry ....... 5
BUS 7007 Marketing .................. 3
CEN 5732 Composition II ............... 3
TOTAL HOURS .................. 15

Third Semester
NAB 2849 Agricultural Chemistry ...... 5
BAC 2171 Small Business Accounting ... 3
BUS 7822 Principles of Management ... 3
CSP 4950 Interpersonal Communication .. 3
Elective ................................ 3
TOTAL HOURS .................. 17

Fourth Semester
BUS 1121 Business Law I .............. 3
NAB 2854 Agricultural Economics ...... 5
Science elective ........................ 5
NAB 2856 Seminar in Agribusiness: Internship .................. 5
TOTAL HOURS .................. 16

AUTOMOTIVE TECHNOLOGY

In this program, you will have the opportunity to gain practical laboratory experience and the necessary theoretical background in diagnosis and tune-up, chassis, electrical and hydraulic systems, automatic transmissions, engines and emissions. The program focuses on the background you will need to advance to supervisory positions, deal directly with customers, estimate material and labor costs, and direct the work of others. It also is designed to prepare you to transfer to a four-year college in such areas as automotive engineering, industrial arts and vocational/technical education. A certificate program also is available.

Associate of Arts Degree
First Semester
TAU 5606 Auto Transmissions & Drivelines .... 4
EGR 7094 Technical Physics I .......... 3
TMF 8031 Introduction to Welding ....... 3
MTH 5722 Technical Math I .............. 3
CEN 7612 Composition I ............... 3
TOTAL HOURS .................. 16

Second Semester
TAU 5604 Auto Basic Electricity .......... 3
TAU 5607 Auto Engines I ................ 3
TAU 5605 Auto Suspension, Steering and Brakes (S) .... 3
BUS 7822 Principles of Management .... 3
CEN 5578 Technical Writing ............ 3
TOTAL HOURS .................. 15

Third Semester
TAU 5608 Auto Electrical Systems ....... 3
TAU 5609 Auto Fuels and Carburetion ... 3
TAU 5611 Auto Heating, A/C and Emissions . 4
Electives .......................... 6
TOTAL HOURS .................. 16

Fourth Semester
TAU 5612 Auto Diagnosis and Evaluation .. 4
TAU 5614 Auto Dealership Operation .... 3
EDT 7674 Graphic Communications ....... 3
Elective .......................... 3
Technology Elective ................ 3
TOTAL HOURS .................. 16
Suggested Technology Electives

TSE 7240 Basic Small Engine Service ........... 3
EET 5290 Introductory Electronics ............. 3
Auto Trim and Chassis Wiring* ................. 3
Auto Special Project* ..................... 3
Summer Work-Study* ................... 3

Automotive Technology Certificate Program

TAU 5604 Auto Basic Electricity .......... 3
TAU 5605 Auto Suspension, Steering and Brakes (S) .......... 3
CEN 7612 Composition I ................. 3
TAU 5606 Auto Transmissions & Drivelines .... 4
TAU 5607 Auto Engines I (S) .......... 3
TMF 8018 Introduction to Welding .......... 3
TAU 5608 Auto Electrical Systems .......... 3
TAU 5609 Auto Fuels and Carburation .......... 3
TAU 5611 Auto Heating, A/C and Emissions .... 4
TAU 5612 Auto Diagnosis and Evaluation .... 4
TOTAL HOURS .......... 33

*Courses being developed.

BIOMEDICAL EQUIPMENT TECHNOLOGY

A biomedical equipment technician may work for a hospital, medical equipment manufacturer, medical equipment service firm or as a field service technician selling, maintaining and installing specialized electronic systems used in the health field. A biomedical equipment technician's work may include electrical safety checks, troubleshooting and repairing medical equipment; preventive maintenance procedures; and in-service training of medical personnel. JCCC's program is centered on courses devoted to the fundamentals of electronics, natural sciences and related mathematics. Internship in an area hospital or medical equipment service is required.

Suggested Sequence of Courses

First Semester

MTH 9000 Math for Electronics I .......... 5
EET 3409 Circuit Analysis I ............. 3
EET 5290 Introductory Electronics .......... 3
CEN 7612 Composition I ................. 3
TOTAL HOURS .......... 14

Second Semester

MTH 9001 Math for Electronics II ........ 5
EET 6029 Circuit Analysis II ............. 3
EET 5886 Electronic Principles I .......... 3
EET 9086 Digital Electronics I ........... 4
TOTAL HOURS .......... 15

Third Semester

EET 9826 Electronic Principles II .......... 3
EMT 7975 Biomedical Equipment Tech. II .... 4
EET 6036 Digital Electronics II .......... 4
EGR 7094 Technical Physics I .......... 3
NLS 6186 Human Anatomy & Physiology* .... 5
TOTAL HOURS .......... 19

Fourth Semester

EET 4464 Electronic Principles III ........ 3
EMT 9824 Biomedical Equipment Tech. II .... 3
EET 4903 Microprocessors .............. 3
EMT 4505 Biomedical Internship .......... 3
EGR 9017 Technical Physics II .......... 3
TOTAL HOURS .......... 15

*May be taken first semester, second semester or summer prior to third semester.

BUSINESS MANAGEMENT

The Business Management Program emphasizes the skills needed to enter mid-management areas of any business. The program's objectives are to increase your awareness of your role as an employee and of the responsibilities of management; your skill in decision-making; and your awareness and appreciation of the basic functions of management, including planning, organizing, directing and controlling. This program is flexible enough to meet the needs of students planning to assume positions of administration or management responsibility in a variety of areas. Some four-year colleges will accept all the courses in this curriculum although it is not intended to be a transfer program.

Suggested Sequence of Courses

First Semester

CEN 7612 Composition I ................. 3
BUS 4282 Introduction to Business .......... 3
BDP 7135 Business Data Processing .......... 3
BUS 2259 Personal Finance or ............. 3
BUS 6038 Savings and Investment or .... 3
BUS 1390 General Insurance .............. 3
Elective .................................. 3
TOTAL HOURS .......... 15

Second Semester

BAC 4092 Accounting I .......... 3
BUS 1007 Business Communication .......... 3
BUS 7822 Principles of Management .......... 3
MTH 7246 Introduction to Algebra .......... 3
Elective .................................. 3
TOTAL HOURS .......... 15

Third Semester

BAC 5096 Accounting II .......... 3
BUS 2341 Personnel Management .......... 3
BUS 2253 Economics I .......... 3
BUS 1221 Business Law .......... 3
Elective .................................. 3
TOTAL HOURS .......... 15

Fourth Semester

BAC 4063 Managerial Accounting .......... 3
BUS 5360 Principles of Supervision .......... 3
BUS 3093 Economics II .......... 3
BUS 5134 Business Law II .......... 3
Elective .................................. 3
TOTAL HOURS .......... 15
CHEF APPRENTICESHIP

Culinary arts is one of the most dynamic fields you can enter. Because of the steady increase in disposable income, the average family eats out more often than previous generations, thus creating a tremendous growth in the hospitality industry. The restaurant/food service industry is the third largest in the United States.

This program consists of three years (6,000 hours) on-the-job training. You will be on probation during the initial 500 hours. Upon job placement, you will be eligible to join the American Culinary Federation Educational Institute for registered apprentice membership. Also, at this time you will be registered with the Department of Labor and will be officially indentured to your supervising chef and the sponsoring American Culinary Federation affiliate chapter.

<table>
<thead>
<tr>
<th>Suggested Sequence of Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>BHM 6037 Hospitality Management Fund</td>
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<tr>
<td>BHM 7028 Basic Food Preparation</td>
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<tr>
<td>BHM 2913 Practicum I</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>BHM 4592 Seminar in Accounting</td>
<td>2-3</td>
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<tr>
<td>BHM 4489 Supervisory Management</td>
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<tr>
<td>BHM 4941 Practicum II</td>
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<td><strong>TOTAL HOURS</strong></td>
<td><strong>7-8</strong></td>
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<td><strong>First Summer</strong></td>
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<tr>
<td>CEN 7612 Composition I</td>
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<td>Elective</td>
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<td><strong>TOTAL HOURS</strong></td>
<td><strong>6-8</strong></td>
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<td><strong>Third Semester</strong></td>
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<tr>
<td>BHM 4593 Seminar in Purchasing</td>
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<tr>
<td>BHM 2166 Food Specialties: Gardé-Manger</td>
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<tr>
<td>BHM 5942 Practicum III</td>
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<tr>
<td><strong>TOTAL HOURS</strong></td>
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</table>

**Fourth Semester**

| BHM 7803 Advanced Food Preparation | 3       |
| BHM 4594 Seminar in Beverage Control | 2-3     |
| BHM 7943 Practicum IV              | 2       |
| **TOTAL HOURS**                     | **7-8** |

**Second Summer**

| CSP 4950 Interpersonal Communication | 3       |
| Elective                             | 3-4     |
| **TOTAL HOURS**                      | **3-4** |

**Fifth Semester**

| BHM 4591 Seminar: Menu Planning and Sales Promotion | 2-3 |
| BHM 6944 Practicum V                        | 2   |
| Elective                                     | 3-4 |
| **TOTAL HOURS**                             | **7-9** |

**Sixth Semester**

| BHM 1388 Adv. Hosp. Mgmt.                  | 3       |
| BHM 2153 Fundamentals of Baking           | 3       |
| BHM 9945 Practicum VI                     | 2       |
| **TOTAL HOURS**                           | **8**   |

COMMERCIAL ART

The Commercial Art Program concentrates on the visual and technical skills, problem-solving ability and creative versatility you will need to be an effective commercial artist. High professional standards, established with the graphic arts industry, are maintained in all courses in this JCCC program. Outstanding studio facilities offer you in-depth experience with the type of equipment, tools, materials and processes which you will encounter on the job. Full-time faculty and professional advertising artists working in the Kansas City area teach the classes. A major objective of the program is for you to develop a professional portfolio for presentation to prospective employers and job placement after graduation. There are no formal requirements associated with entering the Commercial Art Program. But there is a committee review of all student work at the conclusion of each semester. Your participation in this review is a requirement for continuing in the program.

<table>
<thead>
<tr>
<th>Suggested Sequence of Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
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</tr>
<tr>
<td>HAR 2880 Design 2D</td>
<td>3</td>
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<tr>
<td>HAR 7209 Design, Color</td>
<td>3</td>
</tr>
<tr>
<td>HCA 6662 Basic Representation I</td>
<td>3</td>
</tr>
<tr>
<td>HPH 5555 Basic Photography I</td>
<td>3</td>
</tr>
<tr>
<td>HCA 7305 Lettering</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>HCA 5863 Basic Representation II*</td>
<td>3</td>
</tr>
<tr>
<td>HPH 3880 Photography III*</td>
<td>3</td>
</tr>
<tr>
<td>HCA 4679 Visual Technology*(S)</td>
<td>4</td>
</tr>
<tr>
<td>HAR 4028 Silkscreen*(S)</td>
<td>3</td>
</tr>
<tr>
<td>HCA 1861 Layout*</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>
Third Semester
HAR 6021 Design 3D .............................. 4
HCA 1689 Visual Communications II(F) .... 4
HCA 6688 Visual Technology II(F) .......... 4
Art Elective ...................................... 3
TOTAL HOURS ................................. 15

Fourth Semester
HCA 9689 Visual Communications II(S) .... 4
HCA 7690 Preparation of Portfolio**(S) .... 2
HCA 5691 Comm. Art Field Study **(S) ... 3
Electives ......................................... 6
TOTAL HOURS ................................. 15

Suggested Art Electives
HCA 8853 Airbrush Techniques*(R) .......... 3
HAR 3564 Introduction to Printmaking* ....... 3
HAR 1743 Introduction to Art History ......... 3
HAR 3878 Modern Art History .................. 3
HAR 7576 Drawing I ............................. 3
HAR 2021 Life Drawing I* ...................... 3
HAR 3033 Drawing II* .......................... 3
HPH 6666 Photography II* .................... 3
HAR 6662 Life Drawing II* ................. 3
*These classes have prerequisites.
**These courses are corequisites and may be taken only with the permission of the coordinator of the Commercial Art Program.
(F) Offered fall semester only.
(S) Offered spring semester only.
(R) Offered summer semester only.

Part-time Students
If you wish to enroll on a part-time basis (less than 12 hours), follow the sequence listed below or consult the program coordinator:
1. Design 2D (HAR 2880) and/or an art elective
2. Basic Representation I (HCA 6862) and/or
   Lettering (HCA 7205)
3. Design Color (HAR 7209) and/or Photography I
   (HPH 5555)
4. Basic Representation II (HCA 5863) and/or Layout
   (HCA 1861)
5. Visual Technology I (HCA 4679) and/or
   Silkscreen (HAR 4028)
6. Design 3D (HAR 6021) and/or Visual Technology
   II (HCA 6688)
7. Visual Communications I (HCA 1689) and/or
   Photography III (HPH 3880)
8. Visual Communications II (HCA 9689) and/or
   electives
9. Preparation of Portfolio (HCA 7690) and
   Commercial Art Field Study (HCA 5691)

After two semesters in the program you may elect to continue with advanced work in construction or to take the maintenance option. The construction option offers laboratory experience in totally framing and finishing a component building project with advanced work in related occupations. The maintenance option focuses on many skills including cabinet making, plumbing, electrical repair, painting and decorating. A certificate program in construction or maintenance also is available.

Associate of Arts Degree

First Semester
TMF 8025 Intro. to Metal Fabrication .......... 3
TCM 9134 Concrete and Masonry ............... 3
TCM 9135 Environmental Systems .............. 3
EDT 4011 Interp. Architectural Drawing ...... 2
CEN 7612 Composition I ........................ 3
TOTAL HOURS .................................. 14

Second Semester
EGR 7118 Building Materials
      and Construction .......................... 3
TCM 9136 Materials and Properties .......... 3
TCM 9123 Site Planning and Foundations ...... 4
EDT 1229 Building Construction Estimating ... 3
MTH 5722 Technical Math I .................... 3
TOTAL HOURS .................................. 16

Summer Session
TCM 9125 Field Study and Conference ......... 4

Construction Option

Third Semester
TCM 9120 Building Construction I ............. 3
TCM 9127 Millwork and Finish .................. 3
TCM 9126 Concrete Construction ............... 3
Elective ........................................ 3
Technology Elective ........................... 3
TOTAL HOURS .................................. 15

Fourth Semester
TCM 9131 Building Construction II ............ 3
TCM 9137 Construction Management .......... 3
Elective ........................................ 3
Technology Elective ........................... 6
TOTAL HOURS .................................. 15

Maintenance Option

Third Semester
TCM 9120 Building Construction I ............. 3
Diagnosis of Mechanical and
   Electrical Problems* ......................... 4
Maintenance Procedures and
   Processes* .................................. 3
Elective ........................................ 3
Technology Elective ........................... 3
TOTAL HOURS .................................. 16

Fourth Semester
Mechanical Systems* ........................... 4
Building Operation Management* ................ 3
Elective ........................................ 3
Technology Elective ........................... 6
TOTAL HOURS .................................. 16

CONSTRUCTION AND MAINTENANCE TECHNOLOGY

This program focuses on various segments of light commercial and residential construction including concrete, masonry, plumbing, heating, air conditioning, electrical, rough framing and finish carpentry.
Suggested Technology Electives

Construction and Maintenance

Special Project*.......................... 3
TEN 6566 Residential HVAC Systems ............. 3
Plumbing Design and Installation*............. 3
Advanced Masonry*........................ 3
Landscaping*.......................... 3
Construction Inspection & Safety*............. 3

TMF 8031 Introduction to Welding .............. 4
TCM 9122 Introduction to Electricity .......... 3
Diagnosis of Mechanical and Electrical
Problems*............................... 4
Mechanical Systems*........................ 4
Maintenance Procedures and
Processes*............................... 3
Systems & Building Relationships*............ 3
Building Operations Management*.............. 3
Special Project.......................... 2-5

Construction Certificate Program

TMF 8025 Intro. to Metal Fabrication .......... 3
TCM 9134 Concrete and Masonry ............... 3
TCM 9135 Environmental Systems ............... 3
EGR 7118 Building Materials and
Construction ................................ 3

TCM 9127 Millwork and Finish ................ 3
TCM 9136 Material Properties ................ 3
TCM 9123 Site Planning & Foundations .......... 4
TCM 9120 Building Construction I .............. 3
EDT 1229 Building Construction Estimating .... 3
TCM 9126 Concrete Construction*............... 3
TCM 9131 Building Construction II*............. 3
TCM 9137 Construction Management*............. 3

TOTAL HOURS .......................... 37

Maintenance Certificate Program

TMF 8025 Intro. to Metal Fabrication .......... 3
TCM 9135 Environmental Systems ............... 3
TCM 9134 Concrete and Masonry ............... 3
EGR 7118 Building Materials and
Construction ................................ 3

TCM 9127 Millwork and Finish ................ 3
TCM 9136 Material Properties ................ 3
TCM 9123 Site Planning & Foundations .......... 4
TCM 9120 Building Construction I .............. 3

Diagnosis of Mech. and
Elect. Problems*.......................... 4
Maintenance Procedures and
Processes*............................... 3
Mechanical Systems*........................ 4

TOTAL HOURS .......................... 36

*Courses are being developed.

DATA PROCESSING

You can gain skills for entry-level programming positions or related occupations through this program. On-the-job experience is recommended as part of the curriculum. JCCC's data processing laboratory is open on an unscheduled basis seven days a week (over 80 hours). JCCC's data processing equipment includes a Hewlett Packard 3000 system which provides access to an IBM 370-158 as well as in-house processing. Time-sharing, batch and remote batch processing are used. Auxiliary equipment includes keypunches and cathode-ray tubes. You will have the opportunity to code programs on-line using an editor as well as off-line using cards. The course emphasizes practical experience. If you already are in the field of data processing, you may enroll in courses to upgrade and broaden your knowledge. You need 60 hours to graduate.

Required Data Processing Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 3001</td>
<td>Intermediate Algebra</td>
<td>3</td>
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<tr>
<td>BAC 4092</td>
<td>Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BDP 6699</td>
<td>Programming Fundamentals</td>
<td>4</td>
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<tr>
<td>BDP 5105</td>
<td>EDITOR</td>
<td>1</td>
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<tr>
<td>BDP 4700</td>
<td>COBOL I</td>
<td>4</td>
</tr>
<tr>
<td>BDP 1702</td>
<td>COBOL II</td>
<td>4</td>
</tr>
<tr>
<td>BDP 1698</td>
<td>Assembler Language I (F)</td>
<td>4</td>
</tr>
<tr>
<td>BDP 4551</td>
<td>Intro Systems Design/Analysis (F)</td>
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</tr>
<tr>
<td>BDP 3869</td>
<td>Application Programming: Data Processing Topics (S)</td>
<td>2-3</td>
</tr>
<tr>
<td>BDP 3868</td>
<td>Application Programming: Applications (F)</td>
<td>2-3</td>
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<tr>
<td>BDP 6451</td>
<td>Operating Systems (S)</td>
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TOTAL HOURS .......................... 33-35

Data Processing Electives

You must take three of the seven courses listed below and at least one elective language.

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<td>BDP 1684</td>
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<td>RPG/II Beginning (S)</td>
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<tr>
<td>BDP 5832</td>
<td>RPG/II Advanced (F)</td>
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<tr>
<td>BDP 7224</td>
<td>Teleprocessing (F)</td>
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<tr>
<td>BDP 1036</td>
<td>Data File Management (S)</td>
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<tr>
<td>BDP 6005</td>
<td>OS/JCL (F)</td>
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Suggested Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>CEN 7612</td>
<td>Composition I</td>
<td>3</td>
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<tr>
<td>CEN 5732</td>
<td>Composition II</td>
<td>3</td>
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<tr>
<td>CSP 4950</td>
<td>Interpersonal Communication</td>
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<tr>
<td>BAC 5096</td>
<td>Accounting II</td>
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<tr>
<td>HUM 6392</td>
<td>Logic</td>
<td>3</td>
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<tr>
<td>SS 1068</td>
<td>Intro. to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2253</td>
<td>Economics</td>
<td>3</td>
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<tr>
<td>MTH</td>
<td>Math/Additional</td>
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<td>BDP 4023</td>
<td>PASCAL</td>
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<tr>
<td>BDP 4049</td>
<td>Fundamentals of BASIC</td>
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(F) Offered in fall semester only.
(S) Offered in spring semester only.
DENTAL ASSISTING

Your successful completion of this cooperative program with Penn Valley Community College enables you to meet requirements for an Associate of Arts degree and to sit for the Certified Dental Assistant examination. You must be accepted into the program at Penn Valley prior to enrolling at JCCC and should plan your program with a counselor. You should take the following courses concurrently at JCCC and Penn Valley. All courses with NDA prefix are taught at Penn Valley Community College.

Required Courses at JCCC

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<tr>
<th>Course</th>
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<tr>
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<td>Interpersonal Communication 3</td>
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<tr>
<td>NPS 6634</td>
<td>Principles of Chemistry 5</td>
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<td>CEN 7612</td>
<td>Composition I 3</td>
</tr>
<tr>
<td>SS 1068</td>
<td>Intro. to Psychology 3</td>
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<tr>
<td>NLS 6186</td>
<td>Human Anatomy/Physiology 5</td>
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<tr>
<td>SS 3404</td>
<td>Sociology 3</td>
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<tr>
<td>NLS 5593</td>
<td>Microbiology 3</td>
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<td>NLS 6057</td>
<td>Microbiology Lab 2</td>
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<td>BAC 2171</td>
<td>Small Business Accounting 3</td>
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<tr>
<td>NLS 6152</td>
<td>General Nutrition 3</td>
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<tr>
<td>PD 2711</td>
<td>First Aid 3</td>
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<td>NS 5381</td>
<td>Medical Terminology I 2</td>
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<td>American Government or American History elective 3</td>
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Required Courses at PVCC

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<td>NDA 2041</td>
<td>Fundamentals of Dent. I 5</td>
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<td>NDA 1044</td>
<td>Fundamentals of Dent. II 4</td>
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<td>NDA 1052</td>
<td>Pre-clinical Practice 4</td>
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<td>NDA 2855</td>
<td>Fundamentals of Dent. III 4</td>
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<td>NDA 1047</td>
<td>Clinical Practice I 3</td>
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<td>NDA 5048</td>
<td>Fundamentals of Dent. IV 3</td>
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<td>NDA 6050</td>
<td>Clinical Practice II 5</td>
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Suggested Sequence of Courses

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<th>Credits</th>
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<tbody>
<tr>
<td>First Semester</td>
<td>NDA 7252</td>
<td>Clinical Dental Hygiene I 6</td>
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<td></td>
<td>NDA 2339</td>
<td>Head and Neck Anatomy 3</td>
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<td>NDA 7253</td>
<td>Developmental Dentistry 3</td>
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<td>NPS 6634</td>
<td>Principles of Chemistry 5</td>
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<td>SS 1068</td>
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<td>NDA 7254</td>
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<td>Dental Radiology 2</td>
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<td>NLS 6152</td>
<td>Nutrition 3</td>
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<td>NLS 5593</td>
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<td>NDA 7255</td>
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<td>NDA 7256</td>
<td>Dental Health Education 1</td>
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<td>SS 1068</td>
<td>Intro. to Psychology 3</td>
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<td>Third Semester (Summer)</td>
<td>NLS 1144</td>
<td>Human Physiology 4</td>
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<td>CEN 7612</td>
<td>Composition I 3</td>
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<td>SS 3404</td>
<td>Sociology 3</td>
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<td>NDA 7257</td>
<td>Clinical Dental Hygiene III 7</td>
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<td>NDA 7258</td>
<td>Pathology and Periodontology 3</td>
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<td>NDA 7259</td>
<td>Dental Therapeutics 3</td>
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<td>NDA 5250</td>
<td>Dental Materials 2</td>
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<td>NDA 7260</td>
<td>Community Dental Health 2</td>
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<td>NDA 7261</td>
<td>Clinical Dental Hygiene IV 7</td>
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<td>TOTAL HOURS 10</td>
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DRAFTING TECHNOLOGY

This is a comprehensive program based on standards for drafting technicians established by industries in the Kansas City area. A drafting technician's duties may include detailing production drawings and design in such disciplines as mechanical, electrical, structural, architectural, technical illustration, piping and mapping with applications in photodrafting, estimating and quality control. Projects and laboratory procedures in this program are similar to those used in industry. The laboratory is equipped with up-to-date drafting, photo-mechanical and reproduction equipment. If you take the courses below in the sequence indicated you should be able to develop a portfolio reflecting your skills in drafting, photodrafting, technical illustration and reproduction techniques.

Suggested Sequence of Courses

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>First Semester</td>
<td>EDT 5510</td>
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<td>EDT 1513</td>
<td>Reprographics I 2</td>
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<td>MTH 5722</td>
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<td>CEN 7512</td>
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<td>Elective 2</td>
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32
### Second Semester

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<tbody>
<tr>
<td>EDT 2811</td>
<td>Technical Drafting II</td>
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<tr>
<td>EDT 7812</td>
<td>Pictorial Drafting</td>
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<td>MTH 5387</td>
<td>Technical Math II</td>
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<td>Selected Drafting Class or Elective</td>
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### Third Semester

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<tr>
<td>EGR 7094</td>
<td>Technical Physics I</td>
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### Fourth Semester

<table>
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<tr>
<td>EGR 9017</td>
<td>Technical Physics II</td>
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<tr>
<td>EGR 7118</td>
<td>Building Materials &amp; Construction</td>
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<td>Elective</td>
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**Selected Drafting Courses**

<table>
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<th>Title</th>
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<tbody>
<tr>
<td>EDT 4011</td>
<td>Interpreting Arch. Drawings</td>
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<tr>
<td>EDT 2915</td>
<td>Architectural Drafting*</td>
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<tr>
<td>EDT 4014</td>
<td>Process Piping*</td>
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<tr>
<td>EDT 2297</td>
<td>Technical Illustration</td>
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<td>EDT 4012</td>
<td>Interp. Machine Drawings</td>
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<tr>
<td>EDT 5924</td>
<td>Electrical Drafting*</td>
<td>3</td>
</tr>
<tr>
<td>EDT 4015</td>
<td>Cartography and Land Surveying*</td>
<td>3</td>
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<tr>
<td>EDT 1229</td>
<td>Building Construction Estimating</td>
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<tr>
<td>EDT 6016</td>
<td>Interpretation of Welding Drawings</td>
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*Courses have prerequisites.

**Suggested Electives**

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<tr>
<td>EDT 7674</td>
<td>Graphic Communication</td>
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<td>EGR 1243</td>
<td>Engineering Graphics I</td>
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<tr>
<td>BUS 2253</td>
<td>Economics I</td>
<td>3</td>
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<td>CSP 4950</td>
<td>Interpersonal Communication</td>
<td>3</td>
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<tr>
<td>HPH 5555</td>
<td>Photography I</td>
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<td>BUS 2259</td>
<td>Personal Finance</td>
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<td>BUS 2341</td>
<td>Personnel Management</td>
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<tr>
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<td>BDF 4049</td>
<td>Fund. of Basic</td>
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<tr>
<td>EGR 7724</td>
<td>Prog. for Engr. and Science</td>
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### Suggested Sequence of Courses

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<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First Semester</td>
<td>EET 5290</td>
<td>Introductory Electronics</td>
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<td>EET 3409</td>
<td>Circuit Analysis I</td>
<td>3</td>
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<td>MTH 9000</td>
<td>Math for Electronics I</td>
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<td>CEN 7612</td>
<td>Composition I</td>
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<tbody>
<tr>
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<td>EET 6029</td>
<td>Circuit Analysis II</td>
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<td>EET 5886</td>
<td>Electronic Principles I</td>
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<td>EET 9086</td>
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<td>Programming for Eng. &amp; Science</td>
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<td>EGR 7094</td>
<td>Technical Physics I</td>
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<td>EET 2468</td>
<td>Electronic Comm. Systems</td>
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<td>EET 4503</td>
<td>Microprocessors</td>
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### Electronics Engineering Technology

This program focuses on a core of courses devoted to the fundamentals of electronics and related mathematics. Laboratory instruments comparable to those used by industry are available for diagnosing and repairing equipment. The "open lab" concept allows you to access the electronics lab during the week. The following suggested sequence of courses is designed to provide comprehensive, theoretical and practical instruction in electronics technology. The goal of the program is to train you for job entry in the electronics industry upon graduation. But you may also elect to enter the JCCC Biomedical Equipment Technician Program. The first-year requirements for this program and the Electronics Engineering Technology Program are identical. So you may choose to switch programs any time before the start of the second year. Another alternative is to attend a four-year college or university for two more years of study in electronic engineering technology and earn a B.S. in engineering technology.

### Suggested Sequence of Courses

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>First Semester</td>
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<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Second Semester</td>
<td>EET 6029</td>
<td>Circuit Analysis II</td>
<td>3</td>
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<td></td>
<td>EET 5886</td>
<td>Electronic Principles I</td>
<td>3</td>
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<td></td>
<td>EET 9086</td>
<td>Digital Electronics I</td>
<td>4</td>
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<td></td>
<td>MTH 9001</td>
<td>Math for Electronics II</td>
<td>5</td>
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<tr>
<td>Third Semester</td>
<td>EET 9826</td>
<td>Electronic Principles II</td>
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<td>EET 6036</td>
<td>Digital Electronics II</td>
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<td>EGR 7724</td>
<td>Programming for Eng. &amp; Science</td>
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<td>EGR 7094</td>
<td>Technical Physics I</td>
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<tr>
<td></td>
<td>CEN 5578</td>
<td>Technical Writing</td>
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<tbody>
<tr>
<td>Fourth Semester</td>
<td>EET 4464</td>
<td>Electronic Principles III</td>
<td>3</td>
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<tr>
<td></td>
<td>EET 2468</td>
<td>Electronic Comm. Systems</td>
<td>3</td>
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<tr>
<td></td>
<td>EET 4503</td>
<td>Microprocessors</td>
<td>3</td>
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<tr>
<td></td>
<td>EGR 9017</td>
<td>Technical Physics II</td>
<td>3</td>
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<tr>
<td></td>
<td>Non-technical Elective</td>
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<td><strong>TOTAL HOURS</strong></td>
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### Emergency Medical Technology

This short-term certificate program requires approximately 120 class hours to complete. If you successfully complete the program, you will meet the educational prerequisite for taking the State Registry Examination for Emergency Medical Technicians. An additional fee for taking the registry examination is required at the time of testing. Classroom instruction will include basic anatomy and physiology, pathophysiology, emergency recognition and care of acute medical emergencies and trauma-related injuries. The program also teaches skills in performing CPR, bandaging, splinting, childbirth techniques and other emergency care procedures. In addition, you will spend 10 hours of in-hospital observation is such areas as the recovery room, intensive care unit and the emergency, obstetric and psychiatric departments. A simulated automobile accident will help you gain first-hand experience in auto extrication—the safe removal of accident victims from their vehicles. Physical stamina and dexterity are required.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Semester</td>
<td>NET 6441</td>
<td>Emergency Medical Technology</td>
<td>5</td>
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</tbody>
</table>
ENERGY TECHNOLOGY

This two-year program includes basic theory, application, estimating, installation, maintenance and service of air conditioning, heating and ventilating systems. As a student in this program, you will have the opportunity to gain classroom and laboratory experience designed to develop your awareness of basic mathematical and scientific principles dealing with the control of temperature and quality of air and the design, testing, installation and development of heating and cooling systems. At the end of the second semester, you may elect to specialize in either heating, ventilation, air conditioning or solar. A certificate program is also available.

Associate of Arts Degree

Suggested Sequence of Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEN 6541</td>
<td>Basic Principles of HVAC</td>
<td>4</td>
</tr>
<tr>
<td>EGR 7694</td>
<td>Technical Physics I</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6544</td>
<td>Electromechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>MTH 5722</td>
<td>Technical Math I</td>
<td>3</td>
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<tr>
<td>CEN 7612</td>
<td>Composition I</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>TEN 6543</td>
<td>Instrumentation &amp; Control Devices</td>
<td>4</td>
</tr>
<tr>
<td>EDT 7674</td>
<td>Graphic Communications</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6546</td>
<td>Residential HVAC Systems</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6567</td>
<td>Residential HVAC Estimating</td>
<td>3</td>
</tr>
<tr>
<td>EGR 9017</td>
<td>Technical Physics II</td>
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Heating, Ventilating and Air Conditioning Option

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<th>Course Title</th>
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<tbody>
<tr>
<td>TEN 6547</td>
<td>Energy Alternatives</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6548</td>
<td>Diagnosis and Service Proc.</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6550</td>
<td>Commercial System and Design</td>
<td>4</td>
</tr>
<tr>
<td>Elective</td>
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<td>3</td>
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<tr>
<td>Technology Elective</td>
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<tr>
<td>TOTAL HOURS</td>
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Fourth Semester

<table>
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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>TEN 6549</td>
<td>System Design &amp; Load Calculation</td>
<td>4</td>
</tr>
<tr>
<td>TEN 6551</td>
<td>Commercial Service Problems HVAC</td>
<td>3</td>
</tr>
<tr>
<td>TMF 8032</td>
<td>Sheet Metal Pattern and Development</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Technology Elective</td>
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<td>3</td>
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<tr>
<td>TOTAL HOURS</td>
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Solar Option

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>TEN 6557</td>
<td>Intro. to Solar Alternatives</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6558</td>
<td>Solar Design &amp; Installation</td>
<td>4</td>
</tr>
<tr>
<td>TEN 6559</td>
<td>Passive Solar Fundamentals</td>
<td>3</td>
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<td>Elective</td>
<td></td>
<td>3</td>
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<tr>
<td>Technology Elective</td>
<td></td>
<td>3</td>
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<tr>
<td>TOTAL HOURS</td>
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Fourth Semester

<table>
<thead>
<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>TEN 6563</td>
<td>Application of Solar</td>
<td>3</td>
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<tr>
<td>TEN 6560</td>
<td>Solar Project</td>
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</tr>
<tr>
<td>TEN 6564</td>
<td>Solar Integration &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Technology Elective</td>
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<td>3</td>
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<tr>
<td>TOTAL HOURS</td>
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Suggested Technology Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>TEN 6553</td>
<td>Advanced Control Systems and Design</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6552</td>
<td>Equipment Selection &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>TMF 8031</td>
<td>Introduction to Welding</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6547</td>
<td>Energy Alternatives</td>
<td>3</td>
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<tr>
<td>TMF 8025</td>
<td>Intro. to Metal Fabrication</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6557</td>
<td>Intro. to Solar Alternatives</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6561</td>
<td>Advanced Energy Applications and Potentials</td>
<td>4</td>
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<tr>
<td>TEN 6565</td>
<td>Special Project</td>
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Energy Technology Certificate Program

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>TEN 6541</td>
<td>Basic Principles of HVAC</td>
<td>4</td>
</tr>
<tr>
<td>TEN 6543</td>
<td>Instrumentation &amp; Control Devices</td>
<td>4</td>
</tr>
<tr>
<td>TEN 6544</td>
<td>Electromechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6546</td>
<td>Residential HVAC Systems</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6567</td>
<td>Residential HVAC Estimating</td>
<td>3</td>
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<tr>
<td>TEN 6547</td>
<td>Energy Alternatives</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6548</td>
<td>Diagnosis and Service Procedures</td>
<td>3</td>
</tr>
<tr>
<td>TEN 6550</td>
<td>Commercial System &amp; Design</td>
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<tr>
<td>TEN 6551</td>
<td>Commercial Service Problems HVAC</td>
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</tr>
<tr>
<td>TMF 8032</td>
<td>Sheet Metal Pattern &amp; Development</td>
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<tr>
<td>TOTAL HOURS</td>
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Course being developed.

EQUINE STUDIES

The Equine Studies Program emphasizes the skills you will need to earn a living while working with horses. Part of the instruction also is designed to help you improve your skills in riding, training, judging or caring.
for horses. The Riding Instructor Certificate Program requires 30 credit hours of specialized course work in equine skills. You may apply these hours to giving lessons in horsemanship, managing a small business, learning basic riding techniques and sharpening your competitive skills for entering horse shows. The Associate of Arts Degree Program is designed to prepare you for a career as a stable owner or manager, breeder, trainer or a manager of other programs and facilities in today's horse industry.

**Associate of Arts Program**

**Suggested Sequence of Courses**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CEN 7612 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>SES 1216 Stable Management</td>
<td>3</td>
</tr>
<tr>
<td>SES 2335 Equine Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>SES 1395 Western Equitation</td>
<td>2</td>
</tr>
<tr>
<td>SES 2352 Basic Horse Training</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
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<thead>
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<tbody>
<tr>
<td>CEN 5732 Composition II</td>
<td>3</td>
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<tr>
<td>SS 1058 Introduction to Psychology</td>
<td>3</td>
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<tr>
<td>SES 3820 Equine Health &amp; Disorders</td>
<td>4</td>
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<tr>
<td>SES 1880 Beginning Hunt Seat Equitation</td>
<td>2</td>
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<tr>
<td>SES 3784 Advanced Horse Training*</td>
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<tr>
<td>Elective</td>
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<tr>
<td><strong>TOTAL HOURS</strong></td>
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<table>
<thead>
<tr>
<th>Third Semester</th>
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<tbody>
<tr>
<td>CSP 4950 Interpersonal Communication</td>
<td>3</td>
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<tr>
<td>BAC 2171 Small Business Accounting</td>
<td>3</td>
</tr>
<tr>
<td>SES 3029 Equine Breeding &amp; Management</td>
<td>4</td>
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<tr>
<td>SES 4139 Intermediate Western Equitation*</td>
<td>2</td>
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<tr>
<td>or</td>
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<tr>
<td>SES 4140 Intermediate Hunt Seat Equitation*</td>
<td>2</td>
</tr>
<tr>
<td>SES 1103 Equine Showmanship</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
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<tr>
<td><strong>TOTAL HOURS</strong></td>
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<table>
<thead>
<tr>
<th>Fourth Semester</th>
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</thead>
<tbody>
<tr>
<td>BUS 2341 Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>SES 1156 Basic Horseshoeing</td>
<td>3</td>
</tr>
<tr>
<td>SES 1350 Equine Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>SES 2430 Advanced Western Equitation*</td>
<td>2</td>
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<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>SES 3762 Advanced Hunt Seat Equitation*</td>
<td>2</td>
</tr>
<tr>
<td>SES 1308 Equine Judging</td>
<td>2</td>
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<tr>
<td>Elective</td>
<td>3</td>
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<tr>
<td><strong>TOTAL HOURS</strong></td>
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**Riding Instructor Certificate Program**

**Suggested Sequence of Courses**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SES 1216 Stable Management</td>
<td>3</td>
</tr>
<tr>
<td>SES 1184 Tech. of Riding Instruction I</td>
<td>3</td>
</tr>
<tr>
<td>SES 1395 Western Equitation</td>
<td>2</td>
</tr>
<tr>
<td>SES 1880 English Equitation</td>
<td>2</td>
</tr>
<tr>
<td>SES 2352 Basic Horse Training</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
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<tbody>
<tr>
<td>SES 1237 Tech. of Riding Instruction II*</td>
<td>3</td>
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<tr>
<td>SES 4139 Intermediate Western Equitation*</td>
<td>2</td>
</tr>
<tr>
<td>SES 4140 Intermediate English Equitation*</td>
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<tr>
<td>SES 3784 Advanced Horse Training*</td>
<td>2</td>
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<tr>
<td>SES 1103 Equine Showmanship</td>
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<tr>
<td>SES 1308 Equine Judging</td>
<td>2</td>
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<tr>
<td>SES 3489 Advanced Equitation Project</td>
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</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
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</table>

*Prerequisite course required.

**FASHION MERCHANDISING**

In the Fashion Merchandising Program you will take courses related to merchandising, marketing and management because they are competitive areas which apply to today's fashion field. The fashion industry includes five areas of operation: textile, apparel designs, manufacturing, media and promotion, and retailing. JCCC's Fashion Merchandising Program is a combination of campus instruction and on-the-job training experiences in fashion-related fields. Field experiences are an essential part of the program. You will be guided through behind-the-scene operations in Kansas City stores to observe the network of sales-supporting activities as well as manufacturing operations. You also will have the option to participate in field experiences in Dallas, New York City, the Orient and Europe.
Second Semester
BFM 3863 Seminar: Supervisory Develop. (S) .2-3
BFM 1195 Textiles .3
BMM 2407 Creative Retail Selling .3
BFM 4655 Fashion Promotion (S) .3
Elective .3-4
TOTAL HOURS .................14-16

Third Semester
BFM 3864 Seminar: Career Options (F) .2-3
BFM 1019 Fashion Fundamentals II (F) .3
BUS 7007 Marketing .3
BFM 1054 Fashion Display (F) .3
Elective .3-4
TOTAL HOURS .................14-16

Fourth Semester
BFM 3862 Seminar: Marketing Research (S) .2-3
BFM 3503 Merchandise Evaluation (S) .3
BUS 4512 Basic Economics .3
Electives .6-7
TOTAL HOURS .................14-16

Suggested Electives
BFM 2568 History of Dress (S) .3
BFM 5294 Fashion Illustration I .3
BFM 1926 Fashion Illustration II (S) .3
BFM 5149 Interior Design I .3
BFM 2925 Interior Design II .3
BFM 2259 Personal Finance .3
BFM 4092 Accounting I .3
HAR 1192 Weaving .3
BUS 2341 Personnel Management .3
BUS 1121 Business Law I .3
BDP 7135 Business Data Processing .3
CEN 7612 Composition I .3
MTH 2122 Fundamentals of Math .3
CSP 4950 Interpersonal Communication .3
SS 3404 Sociology .3
SS 1068 Intro. to Psychology .3

(F) Offered fall semester only.
(S) Offered spring semester only.

FIRE PROTECTION/PUBLIC SAFETY
The associate degree and certificate programs are designed to provide advanced professional training to fire fighters, architects, insurance adjusters and others with fire and safety interest. This program allows you to work on a 30-credit-hour certificate program in fire prevention, fire protection or fire service administration. You may receive an associate degree by combining two 30-credit-hour programs or by completing one certificate program and an additional 30 credit hours of relevant course work.

PREVENTION
EFS 1745 Fundamentals of Fire Prevention .3
EFS 3744 Building Construction for Fire Protection .3

EFS 4089 Fire Photography .3
EFS 529 Fire Investigation .3
EFS 527 Arson Investigation .3
EFS 528 Life Safety Code .3
EFS 525 Extinguishing, Detection and Alarm Systems .3
Electives .9
TOTAL HOURS .................30

ADMINISTRATION
BUS 7822 Principles of Management .3
BUS 5360 Principles of Supervision .3
BUS 2341 Personnel Management .3
Municipal Fire Administration .3
EFS 526 Fire Science Law .3
EFS 524 Emergency Management Operations .3
Electives .12
TOTAL HOURS .................30

PROTECTION
EFS 743 Introduction to the Fire Science .3
EFS 748 Fire Hydraulics .3
EFS 2577 Fire Hydraulics Lab .3
EFS 3757 Fire Apparatus and Equipment .3
EFS 5756 Fire Tactics and Strategy .3
EFS 6755 Rescue Practices .3
EFS 4481 Rescue Practice Lab .3
* Sprinklers and Standpipe Systems .3
* Hazardous Materials .3
Electives .3
TOTAL HOURS .................30

TECHNICAL ELECTIVES
EFS 7981 Essentials of Fire Fighting .4
EFS 4256 Fire Vehicle Maintenance for Operators and Mechanics .1
EFS 4245 Fire Service Comm. Systems** .1
EFS 4250 Fire Service Records & Reports** .1
NET 6441 Emergency Medical Technician** .5
NPS 6634 Principles of Chemistry .5
MTH 4354 Technical Math I .5
SLE 7108 Criminal Justice System .3
* Major Disasters & Civil Disorders .3
* Readings in Fire & Safety Technology .1-3

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### NONTECHNICAL ELECTIVES

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>COM 5035</td>
<td>Fundamentals of Writing</td>
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<tr>
<td>CSP 4950</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>SS 1068</td>
<td>Intro to Psychology</td>
</tr>
<tr>
<td>* Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>* Industrial Supervision</td>
<td>3</td>
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*Courses yet to be developed
**Prerequisite course required

### HOME ECONOMICS

#### Life and Home Management

#### Family Economics

Today's society is constantly changing. And there are few places these changes are felt more strongly than in the home. JCCC's home economics programs focus on how women — and men — can use their personal resources to adapt to the environment in which they live. Both programs emphasize interpersonal relations, management of personal and family resources, consumerism, nutrition, clothing and housing — skills that are useful in a variety of careers.

#### Life and Home Management

**Associate of Arts Degree**

30 hours in Life and Home Management and 30 hours in one of the existing career programs (or in General Education courses)

#### Suggested Sequence of Courses

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>BLH 7004</td>
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<tr>
<td>BFM 5149</td>
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<tr>
<td>BLH 7003</td>
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<tbody>
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<td>BLH 2858</td>
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### Certificate Program

30 hours in Life and Home Management

#### Suggested Sequence of Courses

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### Family Economics

**Associate of Arts Degree**

30 hours in Home Economics and 30 hours in one of the existing career programs (or in General Education courses)

#### Suggested Sequence of Courses

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<tbody>
<tr>
<td>BLH 7004</td>
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Certificate Program
30 hours Family Economics

Suggested Sequence of Courses

First Semester
BLH 7004 Home Management .................. 3
BUS 2259 Personal Finance .................. 3
BLH 7003 Family Communications .................. 3
BUS 3566 Personal Law .................. 3
BHM 5149 Interior Design I .................. 3
TOTAL HOURS .................. 15

Second Semester
BUS 6038 Savings and Investment .................. 3
BLH 2858 Housing and Equipment .................. 3
BFM 3046 Fashion and Society .................. 3
BFM 3503 Merchandise Evaluation .................. 3
BFM 2859 Nutrition & Meal Planning .................. 3
TOTAL HOURS .................. 15

HOSPITALITY MANAGEMENT
You can choose from two options in the Hospitality Management Program at JCCC. You may earn either a one-year certificate or a two-year degree which emphasizes management skills. The program emphasizes principles of restaurant and hotel management including food purchasing and preparation, planning menus and service for all types of food operations, beverage control, sanitation laws, supervision of hotel and restaurant employees, and office procedures and techniques used in lodging establishments. Primary emphasis is on training you for entry-level management positions. But the program also is designed to help you broaden and update your skills and knowledge. Plan your program with the program coordinator.

Associate of Arts Degree
Suggested Sequence of Courses

First Semester
BHM 6037 Hospitality Management Fund .................. 3
BHM 7028 Basic Food Preparation .................. 3
CEN 7612 Composition I .................. 3
BHM 4593 Seminar: Purchasing .................. 2-3
Elective .................. 3-4
TOTAL HOURS .................. 14-16

Second Semester
BHM 3006 Food Management .................. 3
BHM 4489 Supervisory Management .................. 3
BHM 4592 Seminar: Accounting .................. 2-3
Elective .................. 3-6
TOTAL HOURS .................. 11-16

Summer Session
BHM 2640 Seminar: Internship .................. 3

Third Semester
BHM 4591 Seminar: Menu Planning and Sales Promotion .................. 2-3
BHM 4203 Hotel-Restaurant Operations .................. 3
BHM 3903 Design Techniques .................. 3
CSP 4950 Interpersonal Communication .................. 3
Elective .................. 3-4
TOTAL HOURS .................. 14-16

Fourth Semester
BHM 7803 Advanced Food Prep. & Meats .................. 4
BHM 1388 Advanced Hosp. Management .................. 3
BHM 4594 Seminar: Beverage Control .................. 2-3
BHM 2166 Food Specialties .................. 3
TOTAL HOURS .................. 12-13

Suggestive Electives
BDP 7135 Business Data Processing .................. 3
CJO 2136 Fund. of Advertising .................. 3
HUM 6392 Logic .................. 3
FD 020 Physical Fitness and Weight Training .................. 1
SS 0168 Intro. to Psychology .................. 3
BAC 2171 Small Business Accounting .................. 3
BUS 2259 Personal Finance .................. 3
BUS 2341 Personnel Management .................. 3
BMM 5026 Salesmanship .................. 3
BUS 1121 Business Law I .................. 3
BUS 5134 Business Law II .................. 3
BUS 7007 Marketing .................. 3
NLS 6540 Life Science .................. 4
BLH 2859 Nutrition and Meal Planning .................. 3

Certificate Program
BHM 6037 Hosp. Mngmnt. Fund .................. 3
BHM 7028 Basic Food Preparation .................. 3
CEN 7612 Composition I .................. 3
BHM 4593 Seminar: Purchasing .................. 2-3
BHM 3006 Food Management .................. 3
BHM 4489 Supervisory Management .................. 3
BHM 4592 Seminar: Accounting .................. 2-3
BUS 2341 Personnel Management .................. 3
BUS 2640 Seminar: Internship .................. 3
Electives .................. 3-5
TOTAL HOURS .................. 30-32

INTERIOR MERCHANDISING
The associate of arts degree program is designed to prepare you for a wide range of employment opportunities in the field of residential and commercial home furnishings in retail, wholesale or manufacturing areas. The program is a blend of formal course work and practical on-the-job training designed to enable you to see, select, coordinate and arrange quality and functional interior products and equipment for living or working environments.

The curriculum is a combination of professional, design and merchandising courses. It focuses on the technical, creative and merchandising skills you need in the interior products industry.
Suggested Sequence of Courses

First Semester

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<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>BFM 2017</td>
<td>Seminar: Human Relations</td>
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<tr>
<td>HAR 7576</td>
<td>Drawing I</td>
<td>3</td>
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<tr>
<td>BUS 7007</td>
<td>Marketing</td>
<td>3</td>
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<tr>
<td>BFM 5149</td>
<td>Interior Design I</td>
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<tr>
<td>MTH 2122</td>
<td>Fund. of Math (or equivalent)*</td>
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Second Semester

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<tbody>
<tr>
<td>BFM 2204</td>
<td>Sem: Supervisory Development</td>
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<tr>
<td>HAR 7209</td>
<td>Design, Color</td>
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<tr>
<td>BMM 5026</td>
<td>Salesmanship</td>
<td>3</td>
</tr>
<tr>
<td>BMM 2407</td>
<td>Creative Retail Selling</td>
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<tr>
<td>BLH 2858</td>
<td>Housing and Equipment</td>
<td>3</td>
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<tr>
<td>CLC 1300</td>
<td>Job Search Skills</td>
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<tr>
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Third Semester

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<tbody>
<tr>
<td>BIM 6602</td>
<td>Seminar: Practices &amp; Procedures</td>
<td>2-3</td>
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<tr>
<td>BFM 1195</td>
<td>Textiles</td>
<td>3</td>
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<tr>
<td>BIM 3032</td>
<td>History of Interior Design</td>
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<tr>
<td>BFM 2825</td>
<td>Interior Design II</td>
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<td>BFM 1300</td>
<td>Career Preparations</td>
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<td>Art Elective</td>
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Fourth Semester

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<tbody>
<tr>
<td>BIM 5021</td>
<td>Seminar: Budget &amp; Estimating</td>
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<tr>
<td>BIM 2041</td>
<td>Interior Products</td>
<td>3</td>
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<tr>
<td>BMM 1206</td>
<td>Retailing</td>
<td>3</td>
</tr>
<tr>
<td>BIM 4035</td>
<td>Space Planning</td>
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<tr>
<td></td>
<td>Elective</td>
<td>3-4</td>
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<tr>
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Suggested Electives

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<tr>
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<tbody>
<tr>
<td>BAC 2171</td>
<td>Small Business Accounting</td>
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<tr>
<td>HAR 1608</td>
<td>Art Fundamentals</td>
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</tr>
<tr>
<td>HAR 1713</td>
<td>Intro. to Art History</td>
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<tr>
<td>CEN 7612</td>
<td>Composition I</td>
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<tr>
<td>BMM 1303</td>
<td>Retail Advertising and Display</td>
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<td>EDT 4011</td>
<td>Interpreting Architectural Drawings</td>
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<td>HPH 5555</td>
<td>Photography I</td>
<td>3</td>
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<tr>
<td>BUS 1007</td>
<td>Business Communications</td>
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<tr>
<td>HAR 2880</td>
<td>Design 2-D</td>
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*See program coordinator or counselor for math placement requirement.

INTERPRETER TRAINING

This comprehensive program concentrates on skills in interpreting and basic knowledge and awareness of the hearing impaired necessary for most entry-level positions in interpreting. The trend for interpreting services for the future looks promising as more social agencies, school systems, medical services and industries are providing interpreter services for the hearing impaired.

Successful interpreters usually are flexible, outgoing and feel comfortable in front of a group. They also relate effectively to people and have a good command of the English language and American Sign Language.

During the last semester of the program you will participate in a practicum class that will give you interpreting experience with supervision in a variety of situations at JCCC and in the community.

Suggested Sequence of Courses

First Semester

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<tr>
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<td>Non-Verbal Communication as a Sign Language Base</td>
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<td>AIT 4687</td>
<td>Elementary ASL</td>
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<td>AIT 5169</td>
<td>Understanding Deafness</td>
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<td>AIT 4698</td>
<td>ASL Theory</td>
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Second Semester

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<td>AIT 4688</td>
<td>Intermediate ASL</td>
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<td>AIT 4689</td>
<td>Advanced ASL I</td>
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<tr>
<td>AIT 4690</td>
<td>Fingerspelling I</td>
<td>3</td>
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<tr>
<td>AIT 4691</td>
<td>Orientation to Interpreting</td>
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Third Semester

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<tr>
<td>AIT 4694</td>
<td>Advanced ASL II</td>
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<td>AIT 4695</td>
<td>Fingerspelling II</td>
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<td>AIT 4696</td>
<td>Sign Systems and Specialized Sign Vocabulary</td>
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<td>AIT 5170</td>
<td>Interpreting I</td>
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<td>CLC 4616</td>
<td>Vocabulary Development</td>
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Fourth Semester

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<tr>
<td>AIT 4699</td>
<td>Advanced ASL III</td>
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<tr>
<td>AIT 5171</td>
<td>Interpreting II</td>
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<tr>
<td>AIT 4703</td>
<td>Interpreters and Physical &quot;Burn Out&quot;</td>
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<td>AIT 5172</td>
<td>Practicum</td>
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MARKETING AND MANAGEMENT
This comprehensive, two-year program is designed to prepare you for a career in retail, wholesale or manufacturing sales; marketing research analysis; store management; and buying and service sales. As a full-time or part-time student in this program, you will attend classes at JCCC and, on an individual basis, participate in a formal career experience program (on-the-job training) in a business. Instruction on the job and at the College is integrated to provide the knowledge, skills and attitudes you need to reach your career objectives.

Approved work experience in a related marketing or management position in the community provides you an opportunity to check your theoretical training against the everyday problems of a practical business operation. The evaluation of your progress on the job is a cooperative effort between the training sponsor/employer and College coordinator. While on the job, you may acquire basic merchandising information and learn how to deal with people. The program coordinator may arrange for job interviews if you are seeking employment. If you already have a job, it must be approved by the coordinator. While in training you will be paid a wage you and your employer agree upon.

Associate of Arts Degree
Required Courses

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<td>BUS 7007</td>
<td>3</td>
</tr>
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<td>BUS 1121</td>
<td>3</td>
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<td>BAC 2171</td>
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<td>BMM 2370</td>
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<td>BUS 5360</td>
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<td>BUS 7822</td>
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TOTAL HOURS: 27

Work Experience Courses

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<td>BMM 3873</td>
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<td>BMM 3874</td>
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<td>BMM 3875</td>
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TOTAL HOURS: 10-15

Suggested Electives

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<td>CSP 4950</td>
<td>3</td>
</tr>
<tr>
<td>BUS 4282</td>
<td>3</td>
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<td>SS 3404</td>
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<tr>
<td>BUS 4512</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2341</td>
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Math-related courses

Fashion-related courses

Advertising-related courses

MEDICAL LABORATORY TECHNOLOGY
The medical laboratory technician is a valuable member of the health care team. The MLT works under the direct supervision of a medical technologist in a variety of settings. During the campus year, you will acquire a foundation in biological, physical and social sciences and communication skills. During the clinical year, you will apply this foundation to the performance of clinical laboratory procedures and to working relationships with laboratory staff.

The program is designed so you will be prepared to pursue a bachelor's degree if you wish. The Medical Laboratory Technician Program is a cooperative program between JCCC and Penn Valley Community College. You must be formally accepted by both JCCC and Penn Valley Community College to be admitted into the program. The supportive courses will be held at JCCC and essential courses at Penn Valley. Register for all courses at JCCC. You will receive an Associate of Arts degree when you successfully complete the program.

Required Courses at JCCC

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<tr>
<th>Course</th>
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<tr>
<td>NPS 6634</td>
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<tr>
<td>CEN 7612</td>
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<tr>
<td>NLS 5933</td>
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<td>NPS 2650</td>
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<td>MTH 301</td>
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<td>CSP 4950</td>
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TOTAL HOURS: 29

Required Courses at PVCC

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<td>NLT 9761</td>
<td>3</td>
</tr>
<tr>
<td>NLT 9762</td>
<td>3</td>
</tr>
<tr>
<td>NLT 9763</td>
<td>5</td>
</tr>
<tr>
<td>NLT 9764</td>
<td>4</td>
</tr>
</tbody>
</table>

40
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. The College faculty teaches some of the courses at Baptist Memorial Hospital. You will be responsible for transportation to Baptist Memorial Hospital and to all other clinical agencies.

When you graduate from the program, you will receive an Associate of Arts degree and will be eligible to take the accreditation examination of the American Medical Record Association. To apply for admission into the program request "Admission Procedures" for the Medical Record Program from the Admissions/Records Office. The program is accredited by the Committee on Allied Health Education and Accreditation in collaboration with the American Medical Record Association.

<table>
<thead>
<tr>
<th>Suggested Sequence of Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>NMR 1135 Intro. to Med. Record Profession ..........</td>
<td>2</td>
</tr>
<tr>
<td>NMR 2681 Health Record Systems, Analysis and Controls ..........</td>
<td>3</td>
</tr>
<tr>
<td>NLS 6186 Human Anatomy/Physiology ..........</td>
<td>5</td>
</tr>
<tr>
<td>CEN Elective ..........</td>
<td>3</td>
</tr>
<tr>
<td>Elective ..........</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL HOURS ..........</td>
<td>16</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>NMR 2683 Health Statistics &amp; Research Meth ..........</td>
<td>2</td>
</tr>
<tr>
<td>NMR 2682 Classifications, Nomenclatures, Indices and Registers ..........</td>
<td>3</td>
</tr>
<tr>
<td>NLS 1037 Pathophysiology ..........</td>
<td>3</td>
</tr>
<tr>
<td>BSC 4715 Medical Transcription ..........</td>
<td>3</td>
</tr>
<tr>
<td>NS 2686 Medical Terminology IV ..........</td>
<td>3</td>
</tr>
<tr>
<td>NMR 7111 Directed Practice I ..........</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL HOURS ..........</td>
<td>16</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>BDP 7135 Business Data Processing ..........</td>
<td>3</td>
</tr>
<tr>
<td>NMR 2683 Quality, Assurance &amp; Selected Health Record Systems ..........</td>
<td>3</td>
</tr>
<tr>
<td>NMR 1325 Directed Practice II ..........</td>
<td>4</td>
</tr>
<tr>
<td>BUS 2341 Personnel Management ..........</td>
<td>3</td>
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<tr>
<td>Elective ..........</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL HOURS ..........</td>
<td>16</td>
</tr>
</tbody>
</table>

**Fourth Semester**

| NMR 2684 Legal Aspects of Med. Records .......... | 2       |
| NMR 2345 Departmental Seminar .......... | 2       |
| NMR 3117 Directed Practice III .......... | 5       |
| SS 1068 Intro. to Psychology .......... | 3       |
| CEN Elective .......... | 3       |
| Elective .......... | 3       |
| TOTAL HOURS .......... | 18      |

**Electives**

15 hours to be chosen from this list:

- English .......... | 6       |
- Mathematics .......... | 3       |
- Humanities .......... | 3       |
- Natural Science .......... | 4.5     |
- Typing .......... | 4.5     |
- Social Sciences .......... | 3       |
- Speech .......... | 3       |

MEDICAL TRANSCRIPTION

A medical transcriptionist types or transcribes medical reports that have been dictated on a recorder. Because of the nature and substance of the reports, a transcriptionist needs special skills. Usually a physician dictates medical data pertaining to medical history, diagnostic examination and studies, surgical procedures and other therapies related to a patient.

The program focuses on the skills required to assume a position as a medical transcriptionist in a variety of health care settings such as hospitals, doctors' offices, and comprehensive health centers. JCCC faculty teaches some of the courses at Baptist Memorial Hospital. You are responsible for providing your own transportation there. To apply for admission into the program, request from the Admissions/Records Office ADMISSION PROCEDURES for the Medical Records program.

<table>
<thead>
<tr>
<th>Suggested Sequence of Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>NMR 1135 Intro to Medical Record Profession* ..........</td>
<td>2</td>
</tr>
<tr>
<td>NMR 2681 Health Records, Analysis and Controls* ..........</td>
<td>3</td>
</tr>
<tr>
<td>NLS 6186 Anatomy and Physiology ..........</td>
<td>5</td>
</tr>
<tr>
<td>CEN 7612 Composition I ..........</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL HOURS ..........</td>
<td>15</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>NS 2686 Medical Terminology IV* ..........</td>
<td>3</td>
</tr>
<tr>
<td>BSC 4715 Medical Transcription ..........</td>
<td>3</td>
</tr>
<tr>
<td>NLS 1037 Pathophysiology ..........</td>
<td>3</td>
</tr>
<tr>
<td>BSC 5188 Automatic Typewriters ..........</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL HOURS ..........</td>
<td>11</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>NMT 3413 Medical Transcription Practicum* ..........</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL HOURS ..........</td>
<td>4</td>
</tr>
</tbody>
</table>

*Courses offered at Baptist Memorial Hospital.
MENTAL HEALTH TECHNOLOGY

Kansas regulations require that anyone giving therapy to patients in a state-approved mental institution be certified as a mental health technician. The State Board of Nursing specifies the general curriculum for this program. The curriculum must be nine months and contain 900 clock hours of instruction. The requirements for specific courses and semester hour/contact hour equivalents are explained in the rules and regulations for mental health technicians. The proposed curriculum below follows these rules and meets the requirements.

Nonclinical Courses at JCCC

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS 1068</td>
<td>3</td>
</tr>
<tr>
<td>SS 3546</td>
<td>3</td>
</tr>
<tr>
<td>SS 3428</td>
<td>3</td>
</tr>
<tr>
<td>SS 5716</td>
<td>3</td>
</tr>
<tr>
<td>NLS 6186</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Clinical Courses at Rainbow Unit

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMH 8881</td>
<td>4</td>
</tr>
<tr>
<td>NMH 2883</td>
<td>6</td>
</tr>
<tr>
<td>NMH 7884</td>
<td>6</td>
</tr>
<tr>
<td>NMH 4885</td>
<td>7</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>23</strong></td>
</tr>
</tbody>
</table>

About 480 clock hours are devoted to theory and 460 clock hours to clinic or laboratory. This is slightly in excess of the state-required minimum, but is built as much as possible around courses JCCC currently offers. An additional 20 hours of credit classes are required to receive an Associate of Arts degree from JCCC.

NURSING

JCCC's Associate Degree Nursing Program is accredited by the Kansas Board of Nursing and the National League for Nursing. When you successfully complete the sequence of courses listed below, you will be eligible to take the licensing examination to become a registered nurse. If you wish to enter the Nursing Program, you must meet the academic standards as defined in the admissions criteria. If you have not completed high school, you must have an acceptable GED score. The deadline for application for admission is Feb. 15. The ability to work cooperatively and productively with others is essential. The program is difficult and requires long hours of class, laboratory and study. The ability to manage stress and stressful situations and the flexibility to meet the demands of the program are important considerations.

Sequence of Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPS 6634</td>
<td>5</td>
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</tbody>
</table>

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLS 1128</td>
<td>4</td>
</tr>
<tr>
<td>SS 1068</td>
<td>3</td>
</tr>
<tr>
<td>NRN 8846</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>15</strong></td>
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Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLS 1144</td>
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</tr>
<tr>
<td>SS 3546</td>
<td>3</td>
</tr>
<tr>
<td>NRN 3131</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>15</strong></td>
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</table>

Third Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRN 2847</td>
<td>9</td>
</tr>
<tr>
<td>Social Science Elective*</td>
<td>3</td>
</tr>
<tr>
<td>English*</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>15</strong></td>
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</table>

Fourth Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRN 5848</td>
<td>9</td>
</tr>
<tr>
<td>Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science Elective</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

*You may select specific courses to meet these requirements from this list:

SOCIAL SCIENCES: Sociology, Social Problems
ENGLISH: Composition I, II, Creative Writing
HUMANITIES: Course should be selected in consultation with the program coordinator.

**It is recommended you take Principles of Chemistry in the summer prior to the program to satisfy prerequisites. This also satisfies fourth semester Natural Science requirements. Microbiology is optional but recommended for the program.

(F) Offered in fall semester only.
(S) Offered in spring semester only.
PARALEGAL

The Paralegal Program is designed to prepare you for a career as a paralegal or legal assistant. Through a basic understanding of the law within contemporary legal context and by means of an appropriate sequence of courses, you can become qualified to pursue a quasi-legal career with high levels of proficiency and responsibility. In a wide variety of situations related to the practice of law, the paralegal directly assists attorneys in all phases of their practice. If you are interested in a paralegal career, you need writing skills, the ability and willingness to accept responsibility, an aptitude for organizing ideas and materials, and the ability to communicate and take directions. With an attorney’s supervision and direction, a paralegal can expect to:

• Prepare, summarize and interpret a variety of legal documents and pleadings
• Analyze, compile and utilize information from legal and technical sources, including legal research
• Conduct client and witness interviews and investigations
• Handle office administrative duties

The Paralegal Program offers a certificate upon completion of 30 credits, if you wish only to improve your knowledge and qualifications. Or you may obtain an associate of arts degree upon completion of 60 credits. The Associate of Arts degree is approved by the American Bar Association.

Associate of Arts Degree

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPL 9739 Introduction to Paralegalism</td>
<td>3</td>
</tr>
<tr>
<td>BPL 7740 Legal Research and Writing</td>
<td>3</td>
</tr>
<tr>
<td>BPL 3866 Seminar: Workers’ Compensation and Bankruptcy</td>
<td>2-3</td>
</tr>
<tr>
<td>BPL 3867 Seminar: Legal Interviewing and Investigation</td>
<td>2-3</td>
</tr>
<tr>
<td>CEN 7612 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>CSP 4950 Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Paralegal Electives (see list)</td>
<td>18</td>
</tr>
<tr>
<td>General Electives</td>
<td>24-26</td>
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<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>60</strong></td>
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Certificate Program

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPL 9739 Introduction to Paralegalism</td>
<td>3</td>
</tr>
<tr>
<td>BPL 7740 Legal Research &amp; Writing</td>
<td>3</td>
</tr>
<tr>
<td>BPL 3866 Seminar: Workers’ Compensation and Bankruptcy</td>
<td>2-3</td>
</tr>
<tr>
<td>BPL 3867 Seminar: Legal Interviewing and Investigation</td>
<td>2-3</td>
</tr>
<tr>
<td>CEN 7612 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>CSP 4950 Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Paralegal Electives (see list)</td>
<td>12</td>
</tr>
<tr>
<td>General Electives</td>
<td>3-4</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>30</strong></td>
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</tbody>
</table>

Paralegal Elective Courses

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPL 2828 Real Estate Law I</td>
<td>3</td>
</tr>
<tr>
<td>BPL 7826 Wills, Trusts &amp; Probate Administration</td>
<td>3</td>
</tr>
<tr>
<td>BPL 2184 Business Organizations I</td>
<td>3</td>
</tr>
<tr>
<td>BPL 7917 Litigation I</td>
<td>3</td>
</tr>
<tr>
<td>(Two of the above four courses must be taken)</td>
<td></td>
</tr>
<tr>
<td>BPL 1910 Family Law</td>
<td>3</td>
</tr>
<tr>
<td>BPL 2175 Law Office Systems</td>
<td>3</td>
</tr>
<tr>
<td>BPL 9918 Commercial Transactions</td>
<td>3</td>
</tr>
<tr>
<td>BPL 6090 Real Estate Law II</td>
<td>3</td>
</tr>
<tr>
<td>BPL 2218 Estate Planning</td>
<td>3</td>
</tr>
<tr>
<td>BPL 3320 Business Organizations II</td>
<td>3</td>
</tr>
<tr>
<td>BPL 8940 Litigation II</td>
<td>3</td>
</tr>
</tbody>
</table>

PHYSICAL THERAPY ASSISTANT

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

Physical Therapy Assistant is a cooperative program between JCCC and Penn Valley Community College. You must be formally accepted by both JCCC and Penn Valley to be admitted to the program. The supportive courses will be held at JCCC and the core courses at Penn Valley and affiliate clinical agencies. Register for all courses at JCCC. You will receive an associate of arts degree upon graduation from JCCC.

The Physical Therapy Assistant Program at Penn Valley Community College is accredited by the American Physical Therapy Association.

<table>
<thead>
<tr>
<th>Required Courses at JCCC</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS 5381 Medical Terminology I</td>
<td>2</td>
</tr>
<tr>
<td>NLS 6540 Life Science</td>
<td>4</td>
</tr>
<tr>
<td>SS 1068 Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>NPS 6634 Principles of Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>SS 3404 Sociology</td>
<td>3</td>
</tr>
<tr>
<td>NLS 1128 Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>CEN 7612 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>CSP 4950 Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>NLS 1144 Physiology</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>
RECREATIONAL LEADERSHIP

The Recreational Leadership Program includes introduction and study of basic skills in many areas including team sports, first aid, and arts and crafts. The program emphasizes coordination of theory and knowledge acquired in the classroom with recreation and therapeutic situations in the community. The courses listed below are considered essential for job entry in the field of recreational leadership. It is equally important to select supportive courses in physical development and/or the arts to satisfy degree requirements. If you do not wish to obtain an A.A. degree, the certificate program allows you to complete requirements in one year. The program includes 23 credit hours—10 in the fall and 13 in the spring semester. You are encouraged to pursue an Associate of Arts degree and a four-year degree for better employment opportunities in the field. However, it is up to you to select the program you desire. You will gain practical experience through supervised field work at various recreation agencies throughout Johnson County and area hospitals. You also will be involved in leadership responsibilities such as planning, conducting and evaluating an activity or program.
# Associate of Arts Degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAR 1713</td>
<td>3</td>
</tr>
<tr>
<td>HAR 6193</td>
<td>3</td>
</tr>
<tr>
<td>HAR 2089</td>
<td>3</td>
</tr>
<tr>
<td>HMU 7669</td>
<td>2</td>
</tr>
<tr>
<td>HAR 1192</td>
<td>3</td>
</tr>
<tr>
<td>BUS 2259</td>
<td>3</td>
</tr>
<tr>
<td>CEN 7612</td>
<td>3</td>
</tr>
<tr>
<td>CEN 5732</td>
<td>3</td>
</tr>
<tr>
<td>HUM 6120</td>
<td>3</td>
</tr>
<tr>
<td>CJO 3901</td>
<td>3</td>
</tr>
<tr>
<td>NLS 6540</td>
<td>4</td>
</tr>
<tr>
<td>NLS 6186</td>
<td>5</td>
</tr>
<tr>
<td>CSP 4950</td>
<td>3</td>
</tr>
<tr>
<td>PD 4368</td>
<td>3</td>
</tr>
<tr>
<td>PD 7129</td>
<td>1</td>
</tr>
<tr>
<td>SS 1068</td>
<td>3</td>
</tr>
<tr>
<td>SS 3404</td>
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<tr>
<td>PD 1010</td>
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</table>

**Certificate Program**

<table>
<thead>
<tr>
<th>Sequence of Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>PD 4291 Individual Lifetime Sports</td>
<td>2</td>
</tr>
<tr>
<td>PRL 5298 Introduction to Rec. Services</td>
<td>3</td>
</tr>
<tr>
<td>PD 2711 First Aid/CPR</td>
<td>3</td>
</tr>
<tr>
<td>PD 7168 Fall Sports Officiating</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>PRL 7164 Outdoor Recreation</td>
<td>3</td>
</tr>
<tr>
<td>PRL 2459 Social Recreation</td>
<td>2</td>
</tr>
<tr>
<td>PRL 1379 Recreational Field Study</td>
<td>3</td>
</tr>
<tr>
<td>PD 6061 Spring Sports Officiating</td>
<td>2</td>
</tr>
<tr>
<td>PRL 2571 Intro. to Therapeutic Recreational Services</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td>13</td>
</tr>
</tbody>
</table>

It is recommended, but not mandatory, that you take five hours of electives in the fall semester and two hours in the spring semester.

(F) Offered in fall semester only.
(S) Offered only in the fall.
(S) Offered only in the spring.

# RESPIRATORY THERAPY

The respiratory therapist is skilled in the treatment, management and preventive care of patients with cardio-pulmonary problems. The therapist utilizes a wide range of sophisticated ventilatory and monitoring equipment and is an essential part of the critical care team. Therapists provide many vital services in the hospital and work with people of all ages.

Respiratory Therapy is a cooperative program between JCCC and Baptist Memorial Hospital. You must complete all the prerequisite courses before entering the 12-month program of clinical training at Baptist. You must apply for this program during the fall of the year preceding the Baptist program entrance.

The need for trained respiratory therapists in the hospital setting continues to grow. Opportunities in outpatient clinics and public health agencies are increasing as the national trend away from extended hospital stays continues.

# Required Courses at JCCC

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLS 1128 Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>NLS 1144 Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>NPS 6634 Principles of Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>NPS 1031 Physical Science</td>
<td>4</td>
</tr>
<tr>
<td>NLS 5593 Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>NLS 6057 Microbiology Lab</td>
<td>2</td>
</tr>
<tr>
<td>CEN 7612 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 3001 Algebra</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td>28-30</td>
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</table>

# Required Courses at Baptist

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRT 3370 Beg. Princ. of Resp. Therapy (R)</td>
<td>4</td>
</tr>
<tr>
<td>NRT 3371 Respiratory Therapy Equipment (R)</td>
<td>4</td>
</tr>
<tr>
<td>NRT 3372 Cardiopulmonary Medicine I (R)</td>
<td>1</td>
</tr>
<tr>
<td>NRT 3373 Clinical Cardiopulmonary Phys. (F)</td>
<td>4</td>
</tr>
<tr>
<td>NRT 3374 Clinical Practice I (F)</td>
<td>4</td>
</tr>
<tr>
<td>NRT 3375 Clinical Topics &amp; Procedures I (F)</td>
<td>3</td>
</tr>
<tr>
<td>NRT 3376 Cardiopulmonary Medicine II (F)</td>
<td>2</td>
</tr>
<tr>
<td>NRT 3377 Respiratory Pharmacology (S)</td>
<td>2</td>
</tr>
<tr>
<td>NRT 3378 Clinical Practice II (S)</td>
<td>4</td>
</tr>
<tr>
<td>NRT 3379 Clinical Topics &amp; Procedures II (S)</td>
<td>4</td>
</tr>
<tr>
<td>NRT 3380 Cardiopulmonary Medicine III (S)</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td>34</td>
</tr>
</tbody>
</table>

(F) Offered in fall semester only.
(S) Offered only in the fall.
(R) Offered in summer session only.

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# SECRETARIAL CAREERS

The Secretarial Careers Program is designed to prepare top-quality persons for challenging secretarial responsibilities in business, industry and government. Automation plays a large part in today's office work. At JCCC, you will be trained on the latest equipment and procedures. Laboratories contain four Memory and two Mag Card II automatic typewriters. Machine transcription is taught on the latest equipment using cassette transcribing techniques. Work experience programs are available with the approval of the instructor. Legal, medical and other special options in professional work are open to qualified persons. If you are interested in preparing for the Professional Secretary Examination, consult with an instructor early into the program to satisfy both course selection and work experience requirements. You may take short courses and special programs if you want to sharpen present skills or to prepare to re-enter the job market.

# Associate of Arts Degree Program

<table>
<thead>
<tr>
<th>Sequence of Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>BUS 4282 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>CEN 7612 Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BSC 2376 Intermediate Typing</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td></td>
</tr>
</tbody>
</table>
There are five different Secretarial Field Study courses: Administrative Office Management, Business Math, Business Law, Management, and Human Relations. These are offered on a rotation basis.

Certificate Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2326</td>
<td>Intermediate Typing</td>
<td>3</td>
</tr>
<tr>
<td>BAC 271</td>
<td>Small Business Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BSC 1272</td>
<td>Secretarial Procedures I</td>
<td>3</td>
</tr>
<tr>
<td>BSC 2317</td>
<td>Secretarial Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>CEN 7612</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BSC 1342</td>
<td>Records Management</td>
<td>3</td>
</tr>
<tr>
<td>BSC 5190</td>
<td>Elec. Calculators</td>
<td>1</td>
</tr>
<tr>
<td>and BSC 5188</td>
<td>Automatic Typewriters</td>
<td>2</td>
</tr>
<tr>
<td>BSC 5189</td>
<td>Machine Transcription</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1007</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>BSC 3857</td>
<td>Sec. Field Study I</td>
<td>2-3</td>
</tr>
<tr>
<td>BSC 3858</td>
<td>Sec. Field Study II</td>
<td>2-3</td>
</tr>
<tr>
<td>TOTAL HOURS</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

There are two Secretarial Field Study courses required: Secretarial Field Study I—Management and Secretarial Field Study II—Human Relations.

Legal Secretarial Option

Recommended courses for students who wish to prepare for the Professional Legal Secretary examination while completing requirements for an associate of arts degree.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEN 7612</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BSC 1342</td>
<td>Records Management</td>
<td>3</td>
</tr>
<tr>
<td>BSC 4590</td>
<td>Shorthand II</td>
<td>3</td>
</tr>
<tr>
<td>BSC 2376</td>
<td>Intermediate Typing</td>
<td>3</td>
</tr>
<tr>
<td>BSC 1272</td>
<td>Secretarial Procedures I</td>
<td>3</td>
</tr>
<tr>
<td>BSC 3858</td>
<td>Secretarial Field Study II</td>
<td>2-3</td>
</tr>
<tr>
<td>BSC 3860</td>
<td>Secretarial Field Study IV</td>
<td>2-3</td>
</tr>
<tr>
<td>BSC 4590</td>
<td>Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BSC 5189</td>
<td>Machine Transcription</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1007</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS 121</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 1007</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL HOURS</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

Recommended Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 5188</td>
<td>Automatic Typewriters</td>
<td>2</td>
</tr>
<tr>
<td>BSC 5190</td>
<td>Electronic Calculators</td>
<td>1</td>
</tr>
<tr>
<td>BSC 7135</td>
<td>Business Data Processing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 4282</td>
<td>Intro. to Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5134</td>
<td>Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>BSC 3630</td>
<td>Dictation and Transcription</td>
<td>3</td>
</tr>
</tbody>
</table>

*Course to be developed.

There are two Secretarial Field Study courses required: Secretarial Field Study II—Human Relations and Secretarial Field Study IV—Business Math.
SMALL ANIMAL HEALTH

This program is designed to provide you the skills and knowledge necessary to assist the practicing veterinarian in professional services and office routines. Employment opportunities are in laboratory care and pharmaceutical animal colonies. This program is offered in cooperation with the Animal Health Technology Program at Maple Woods Community College. You must be accepted by both JCCC and Maple Woods to be admitted to the program.

Courses Offered at Maple Woods

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAT 4894</td>
<td>Intro. to Small Animal Tech.</td>
<td>2</td>
</tr>
<tr>
<td>NAT 1895</td>
<td>Sanitation &amp; Animal Care</td>
<td>2</td>
</tr>
<tr>
<td>NAT 7896</td>
<td>Clinical Mathematics</td>
<td>1</td>
</tr>
<tr>
<td>NAT 6897</td>
<td>Prin. of Animal Science I</td>
<td>3</td>
</tr>
<tr>
<td>NAT 3899</td>
<td>Prin. of Animal Science II</td>
<td>3</td>
</tr>
<tr>
<td>NAT 2901</td>
<td>Clinical Path. Techniques I</td>
<td>4</td>
</tr>
<tr>
<td>NAT 1902</td>
<td>Animal Health Internship</td>
<td>6</td>
</tr>
<tr>
<td>NAT 5903</td>
<td>Animal Hosp. Technology I</td>
<td>3</td>
</tr>
<tr>
<td>NAT 4904</td>
<td>Animal Tech. Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>NAT 3905</td>
<td>Laboratory Animal Tech.</td>
<td>2</td>
</tr>
<tr>
<td>NAT 6906</td>
<td>Animal Hosp. Tech. II</td>
<td>3</td>
</tr>
<tr>
<td>NAT 6004</td>
<td>Clinical Path. Tech. II</td>
<td>5</td>
</tr>
<tr>
<td>NAT 6006</td>
<td>Large Animal Technology</td>
<td>4</td>
</tr>
<tr>
<td>NAT 8909</td>
<td>Radiology &amp; Elect. Procedures</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>45</strong></td>
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Courses Offered at JCCC

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLS 4241</td>
<td>General Zoology</td>
<td>5</td>
</tr>
<tr>
<td>CEN 7612</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BAC 2171</td>
<td>Small Business Accounting</td>
<td>3</td>
</tr>
<tr>
<td>NPS 4515</td>
<td>General Chemistry I Lecture</td>
<td>4</td>
</tr>
<tr>
<td>NPS 4516</td>
<td>General Chemistry I Lab</td>
<td>1</td>
</tr>
<tr>
<td>NPS 6634</td>
<td>Principles of Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>SS</td>
<td>American Government or American History elective</td>
<td>3</td>
</tr>
<tr>
<td>CSP 4950</td>
<td>Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>NLS 5593</td>
<td>Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>NLS 6057</td>
<td>Microbiology Lab</td>
<td>2</td>
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<tr>
<td></td>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>27</strong></td>
</tr>
</tbody>
</table>

Note: If you plan to graduate from Maple Woods, check with the coordinator of the Small Animal Health program about the Missouri Constitution requirement.

URBAN AGRIBUSINESS

This program will prepare you to work with plant life in a variety of settings. As a student in the program, you will study plant development, pest control, landscape principles and greenhouse construction among other topics. You also will study the business aspects of urban agribusiness and will receive on-the-job training in field placements. Urban Agribusiness is a cooperative program between JCCC and Longview Community College. Supportive courses will be held at JCCC and essential career courses at Longview. You should register at JCCC for all courses. When you successfully complete the program, you will receive an associate of arts degree from JCCC.

Required Courses at JCCC

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLS</td>
<td>General Botany</td>
<td>5</td>
</tr>
<tr>
<td>CEN</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>BAC</td>
<td>Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS</td>
<td>Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSP</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>BUS</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Business Elective</td>
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<tr>
<td></td>
<td>Elective</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>29</strong></td>
</tr>
</tbody>
</table>

Required Courses at Longview

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>NUA 8887</td>
<td>Horticulture I (F)</td>
<td>5</td>
</tr>
<tr>
<td>NUA 6888</td>
<td>Intro. to Urban Agribusiness (F)</td>
<td>1</td>
</tr>
<tr>
<td>NUA 3889</td>
<td>Horticulture II (S)</td>
<td>5</td>
</tr>
<tr>
<td>NUA 5890</td>
<td>Work Experience I (S)</td>
<td>3</td>
</tr>
<tr>
<td>NUA 2891</td>
<td>Plant Materials I (F)</td>
<td>3</td>
</tr>
<tr>
<td>NUA 7892</td>
<td>Work Experience II (S)</td>
<td>3</td>
</tr>
<tr>
<td>NUA 8893</td>
<td>Plant Materials II (S)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Urban Agribusiness electives</td>
<td>9</td>
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<tr>
<td></td>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>32</strong></td>
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Elective Courses at Longview

(Any 3 of the following courses)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUA 2930</td>
<td>Landscape Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>NUA 8937</td>
<td>Special Topics I</td>
<td>3</td>
</tr>
<tr>
<td>NUA 4007</td>
<td>Grounds Establishment</td>
<td>3</td>
</tr>
<tr>
<td>NUA 2938</td>
<td>Special Topics II</td>
<td>3</td>
</tr>
<tr>
<td>NUA 6009</td>
<td>Special Topics III</td>
<td>3</td>
</tr>
</tbody>
</table>

(F) Offered in fall semester only.
(S) Offered in spring semester only.

Note: If you plan to graduate from Longview, check with the coordinator of the Urban Agribusiness program about the Missouri Constitution requirement.
Course Descriptions
ACCOUNTING

SMALL BUSINESS ACCOUNTING . . . . . . . . . . BAC 2171
Introduction to various aspects of starting and operating a small business with emphasis on the basic accounting procedures needed to maintain daily records for the small firm. Designed to meet the needs of the individual operating a firm with occasional help of an outside accountant. Does not prepare the student for Accounting II. Class meets three hours a week. Three credits.

ACCOUNTING I . . . . . . . . . . . . . . . . . . . . . . . . . BAC 4092
Introduction to accounting fundamentals. Emphasis on the recording and analysis of transactions and the managerial use of financial statements. Class meets three hours a week. Three credits.

ACCOUNTING II . . . . . . . . . . . . . . . . . . . . . . . . BAC 5096
Prerequisite: BAC 4092. Continuation of BAC 4092 with increased emphasis on interpretation and use of accounting data by management. Accounting theory application in business organizations including preparation and use of financial statements. Class meets three hours a week. Three credits.

COST ACCOUNTING . . . . . . . . . . . . . . . . . . . . . . . . BAC 2436
Prerequisite: BAC 5096. Allocation of production costs to determine unit costs of goods manufactured and sold and the utilization of such data by management. Class meets three hours a week. Three credits.

INTERMEDIATE ACCOUNTING I . . . BAC 6299
Prerequisite: BAC 5096. Application of accounting theory to the valuation of balance sheet accounts and fund flow analysis. Emphasis on cash and receivables, inventories, fixed assets and liabilities. Class meets three hours a week. Three credits.

INTERMEDIATE ACCOUNTING II . . . BAC 6294
Prerequisite: BAC 5096. A continuation of the study of accounting concepts and technical procedures as applied to capital structure, earnings and dividends. Study will include long-term investment and debts, leases, pensions, analysis of financial reports, and price-level and fair-value accounting and reporting. Class meets three hours a week. Three credits.

MANAGERIAL ACCOUNTING . . . . . BAC 4063
Prerequisite: BAC 5096. Development and use of accounting information as an instrument of management control. Material includes financial statement analysis, cost application and budgeting reports to management. Class meets three hours a week. Three credits.

FEDERAL INCOME TAXES I . . . . . . . . . . . . . . . . . . . . . BAC 2360
Procedures for reporting federal income taxes with emphasis on income and deductions for individuals. Practice is given in preparing Federal Income Tax Returns. Class meets three hours a week. Three credits.

FEDERAL INCOME TAXES II . . . . . . . . . . . . . . . . . . . . . . . BAC 4487
Prerequisite: BAC 2360 and BAC 5096. Procedures for reporting federal income taxes with emphasis on income and deductions for sole proprietorships, partnerships and corporations. Practice given in preparing federal income tax returns on official forms. Class meets three hours a week. Three credits.

ACCOUNTING FOR NONPROFIT ORGANIZATIONS . . . . . . . . . BAC 4218
Introduction to not-for-profit accounting and its primary users—federal, state and local governments; hospitals; and schools. Topics will include the primary funds and accounting groups, the budget process and practice variances among the major not-for-profit users according to the user's authoritative pronouncement. Class meets three hours a week. Three credits.

FIELD STUDY: ACCOUNTING SEMINAR . . . . . . . . . . . . . . . BAC 3871
Prerequisite: BAC 5096. The seminar is designed for review of accounting principles and practice through the completion of several accounting cycles and practice sets. Class meets two hours a week. Two or three credits.

FIELD STUDY: BUSINESS MATH . . . . . . . . . . . . . . . . . . . . BAC 3872
The class content will be mathematical aspects of accounting and clerical work. Weekly class discussions focus on relating math content to on-the-job training. Two or three credits.

FIELD STUDY: HUMAN RELATIONS . . . . . . . . . . . . . . . . BAC 3870
Emphasis is on human relations, communications and decision-making. Weekly class discussions focus on relating human relations content to current work experience. Class meets two hours a week. Two or three credits.

BOOKKEEPING/ACCOUNTING I:
SHORT COURSE . . . . . . . . . . . . . . . . . . . . . . . . . . . . BAC 1450
Introduction to journals, ledgers, working sheets and financial statements. Class meets two hours a week. Two credits.
## ADMINISTRATION OF JUSTICE/LAW ENFORCEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIC POLICE TRAINING COURSE</td>
<td>SLE 3045</td>
<td>Prerequisite: Must be currently employed full-time by a participating law enforcement agency. Basic patrol procedures: traffic investigation and control, arrests, search and seizures. Fullfills and exceeds requirements of the Kansas Minimum Standards Training Act. May be applied as credit to satisfy requirements of the associate degree program in Administration of Justice. A minimum of 480 clock hours. Class meets five days a week, eight hours a day for thirteen weeks. One to fifteen credits.</td>
</tr>
<tr>
<td>INTRO. TO ADMIN. OF JUSTICE</td>
<td>SLE 2080</td>
<td>Emphasis is on the historical and philosophical development of the criminal justice system. Participation in field and classroom experiences gives students the opportunity to explore career opportunities within the criminal justice system. Also included is examination of law enforcement processes, entry-level requirements for local, state and federal agencies. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>POLICE AND THE PUBLIC</td>
<td>SLE 6432</td>
<td>Identification and analysis of conflicts arising between police and the community they serve. Function of the police as a social institution within a free society. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>STUDY OF THE CRIMINAL JUSTICE SYSTEM</td>
<td>SLE 7108</td>
<td>Analysis and identification of the subsystems of the criminal justice system. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>FUNDAMENTALS OF CRIMINAL INVESTIGATION</td>
<td>SLE 5137</td>
<td>Prerequisite: SLE 7108. Investigative techniques for crime scene search; collection and preservation of evidence; interviewing; and logical reconstruction of crime. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>INTRODUCTION TO CRIMINALISTICS</td>
<td>SLE 7292</td>
<td>Prerequisite: SLE 5137. Skill training in techniques and methods to establish the identity and individualization of persons and things in a criminalistic laboratory. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>SUPERVisory TECHNIQUES FOR POLICEMEN</td>
<td>SLE 7161</td>
<td>Prerequisite: SLE 7108. Current theory and practice of the supervisor's role in the police service. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>JUVENILE DELINQUENCY</td>
<td>SLE 3166</td>
<td>Analysis of detention procedures, disposition, custody and treatment of juvenile offenders throughout the United States, with a specific interest in area systems. Origin and development of juvenile agencies, organization functions and jurisdiction of juvenile courts. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>CRIMINAL LAW</td>
<td>SLE 4588</td>
<td>Kansas Criminal Code with emphasis on elements of crimes and criminal procedure. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>MOTOR VEHICLE LAW</td>
<td>SLE 2461</td>
<td>Standard traffic ordinances for Kansas cities. Emphasis on fundamentals of traffic regulation and control as related to law enforcement, courts and other governmental functions. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>POLICE ORGANIZATION AND MANAGEMENT</td>
<td>SLE 7454</td>
<td>Contemporary methods and techniques used in the organization of a modern police department. Practical application of procedures used in management of people, money and materials to achieve departmental objectives. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>TRAFFIC SAFETY AND ACCIDENT INVESTIGATION</td>
<td>SLE 6653</td>
<td>Study of traffic safety and enforcement. Identification and analysis of the accident and investigative function of the police. Preparation of scale diagrams of accident situations. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>CONSTITUTIONAL CASE LAW</td>
<td>SLE 4418</td>
<td>In-depth analysis of important Supreme Court decisions concerning questions of constitutional law which have significant impact on law enforcement techniques and procedures. Class meets three hours a week. Three credits.</td>
</tr>
<tr>
<td>CRIME PREVENTION</td>
<td>SLE 4263</td>
<td>The emerging philosophy and basic concepts of crime prevention programs. Emphasis is placed on operational techniques utilized by public service agencies to operate crime prevention programs and how to provide technically accurate, cost effective security recommendations to members of the community. Class meets three hours a week. Three credits.</td>
</tr>
</tbody>
</table>
CRIMINOLOGY ..................... SLE 1585

PATROL PROCEDURES ............... SLE 4033
Prerequisite: SLE 2080 or SLE 7108. Analysis of basic techniques of the police patrol function. Emphasis on record writing, traffic law enforcement, arrest, search and seizure, patrol and peacekeeping. Class meets three hours a week. Three credits.

DEFENSIVE TACTICS FOR POLICE .... SLE 7288
Prerequisite: Fifteen hours credit in SLE courses. Proficiency in the use of the baton and service revolver as offensive and defensive weapons. Constitutional limitations on the use of force. Student required to furnish sufficient ammunition for qualification with service revolver. Class meets three hours a week. Three credits.

FUND. OF PRIVATE SECURITY ......... SLE 5006
An overview of the private security field, including organization and management of the security function in industry, business, government and institutions. The protection of personnel, facilities and other assets will be analyzed. Class meets three hours a week. Three credits.

RETAIL SECURITY ...................... SLE 4163
Study of retail security supervision and management techniques, including survey of employment practices, safeguards against employee dishonesty, methods of controlling shoplifters, and building and perimeter physical protection. Class meets three hours a week. Three credits.

EMERGENCY DISPATCHER FIELD STUDY ......... SLE 5063
Prerequisite: Only students in appropriate programs will be accepted. On-the-job apprentice training under the supervision of a qualified dispatcher in Law Enforcement, Fire Protection or Emergency Medical Services. Affords the apprentice an opportunity to learn dispatching techniques and to apply the knowledge and skills acquired on the job and in theory-related courses. The field study will be conducted at an approved dispatching station and arranged by the JCCC program coordinator. Class meets by arrangement. Three credits.

READINGS IN POLICE SCIENCE ......... SLE 1174
Prerequisite: 15 hours credit in Law Enforcement. Selected readings in police science, such as police administration, criminal investigation, criminology, corrections, juvenile problems, evidence. Hours by arrangement. Three credits.

PRINCIPLES OF CORRECTIONS ........ SLE 7581
Prerequisite: Approval of division director. Topics in this course include the historical development and philosophy of corrections; ancient codes; medieval justice; development of corrections including parole, probation and community treatment. Class meets three hours a week. Three credits.

CORRECTIONS IN THE COMMUNITY ... SLE 7580
Prerequisite: SLE 7581 and division director approval. This course will cover community correctional programs; diversion; half-way programs; prerelease centers; group homes; probation; and parole. Also discussed will be community processes needed to support these programs. Class meets three hours a week. Three credits.

CORRECTIONAL PSYCHOLOGY ............ SLE 7582
Prerequisite: Approval of division director. In this class students will hear about psychological theories of crime and delinquency; diagnostic approaches used in correctional settings; psychopathology; classification procedures; and individual and group counseling techniques. Class meets three hours a week. Three credits.

THEORY OF CHILD CARE WORK IN RESIDENTIAL TREATMENT ........ SLE 7583
Prerequisite: Approval of division director. The role of the child care worker will be explored in this course as well as basic theory of treatment; organizational structure; and problem-solving skills. Class meets three hours a week. Three credits.

METHODS OF INTERACTING WITH EMOTIONALLY SENSITIVE CHILDREN ......... SLE 7584
Prerequisite: SLE 7583 and approval of division director. The goals and needs of children, especially emotionally sensitive children, will be discussed in this course. Other topics include selecting, implementing and evaluating procedures for intervention in problem behavior and practical application of methods. Class meets three hours a week. Three credits.

INTERNSHIP IN CORRECTIONS I .......... SLE 7585
Prerequisites: SLE 7581 and approval of division director. This internship is designed to provide on-the-job training in corrections. Fifteen hours a week. Three credits.

INTERNSHIP IN CORRECTIONS II ........ SLE 7586
Prerequisites: SLE 7585 and approval of division director. This internship is designed to provide on-the-job training in corrections. Fifteen hours a week. Three credits.

CORRECTIONAL ADMINISTRATION ....... SLE 7587
Prerequisite: SLE 7581 and approval of division director. This survey of current management patterns in correctional agencies includes discussion of management by objectives and accountability; public relations; training; budgeting; record keeping; and custody and treatment classifications. Class meets three hours a week. Three credits.
AGRICULTURE

INTRODUCTION TO AGRICULTURE . . NAS 3102
A survey of the options available to the student in agriculture. Various transfer and career choices will be presented. Job availability, educational requirements, typical entry salaries and transfer possibilities will be presented to assist the student in planning a career in agriculture. Class meets one hour a week. One credit.

PRINCIPLES OF ANIMAL SCIENCE . . . NAS 3103
Basic principles which apply to animal agriculture; survey of the industry; types, purposes and products of livestock; principles of breeding, selection, nutrition, lactation, reproduction, management and marketing. Class meets three hours a week. Three credits.

ART

INTRODUCTION TO ART HISTORY . . HAR 1713
Historical study of art, tracing its development from prehistoric times to the 18th century. Emphasis on the study of the growth and development of art forms and movements, leading to an understanding of the relationship of art to the historical periods. Class meets three hours a week. Three credits.

MODERN ART HISTORY . . . . . . HAR 3878
An advanced art history course. Students will gain more experience in identification and study of 18th, 19th and 20th century American and European artists and their works. Class meets three hours a week. Three credits.

ELEMENTARY ART METHODS . . . HAR 4099
Exploration of art activities appropriate for children from preschool through sixth grade. Emphasis on relating activities to the child's patterns of growth and development. Three hours of class and three hours of laboratory a week. Three credits.

ART FUNDAMENTALS . . . . . . . . . . HAR 1608
An intensive exploration of the visual arts. Designed to acquaint students with art forms and applications. Class meets six hours a week. Three credits.

AMERICAN ART SINCE 1945 . . . . . . HAR 3008
A study of American painting and drawing. Traces the development from 1945 to the present. Students will study work represented in the major museums and important commercial galleries, particularly those representing the New York school. One credit.

DIRECTED READING IN CONTEMPORARY AMERICAN ART . . . . . . . . . . HAR 3333
Prerequisite: Permission of the division director. This course will explore the technical and philosophical points of view of contemporary American artists. A wide variety of styles will be considered. Students meet by arrangement. Class meets one hour a week. One credit.
DESIGN, 2D ....................... HAR 2880
An introductory study of the basic principles of visual
perception, two-dimensional space organization and
the visual elements of line, shape and texture. Class
meets six hours a week. Three credits.

DESIGN, COLOR .................. HAR 7209
A study of the nature of color, including its physical
properties and visual qualities. Problems relating to
color as light and as pigment will be explored. Class
meets six hours a week. Three credits.

DESIGN, 3D ....................... HAR 6021
A study of the function of three-dimensional
organization in the development of visual ideas. Con-
cepts, materials and processes necessary to an
understanding of the three-dimensional relationships
of space, form, form evolution and the dynamics of
structure. Class meets eight hours a week. Four
credits.

LIFE DRAWING II .................. HAR 6662
Prerequisite: HAR 2021. Advanced figure drawing.
Working from models, students study the human
figure as an expressive source for drawing as a work of
art, as well as for future works of art in other media
(painting, sculpture). Class meets six hours a week.
Three credits.

PAINTING I ....................... HAR 5004
Emphasis on developing visual perception. Still life,
landscape and human form studied through a variety
of media. Concentration on awareness of creative
responsibility and expression. Class meets six hours a
week. Three credits.

PAINTING II ....................... HAR 6011
Prerequisite: HAR 5004. Awareness of historical and
contemporary painting. Advanced painting with em-
phasis on personal direction and the development of a
consistent body of work. Class meets six hours a week.
Three credits.

WATERCOLOR PAINTING .......... HAR 5405
Prerequisite: HAR 7576 or HAR 5004. Students will
work from a variety of representational and non-
objective situations using watercolor as a means to
study color, value and composition in transparent
media. Subject matter includes still lifes, models and
landscapes as well as abstract problems with mixed
media. Two hours lecture and four hours lab each
week. Three credits.

STUDIO WORKSHOP ............... HAR 6879
Prerequisites: HAR 5004 or HAR 7576 and permission of
division director. Emphasis will be on individual studio
activity in painting or drawing. Course content to be
determined by the student under supervision of a
faculty member. Three credits.

INTRODUCTION TO PRINTMAKING . HAR 3564
Prerequisites: HAR 2880 and either HAR 7576 or HCA
6862. Introduction to a variety of traditional and con-
temporary printmaking processes, including on- and
off-the-press techniques. Class meets six hours a week.
Three credits.
SILKSCREEN ............................... HAR 4028
Prerequisites: HAR 2880 and either HAR 7576 or HCA 6862. An exploration of silkscreen techniques ranging from the use of simple paper stencils to photographic processes. Class meets six hours a week. Three credits.

RAKU CERAMICS ..................... HAR 7666
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 manipulation of form. Class meets six hours a week. Three credits.

CERAMICS I .......................... HAR 6193
A basic course in wheel-throwing techniques. Studio experiences acquaint the students with firing and glazing techniques. Optional techniques include hand-building, stacking and other kiln-firing procedures, as well as other methods of surface enrichment in decorative research. Class meets six hours a week. Three credits.

CERAMICS II .......................... HAR 2211
Prerequisite: HAR 6193. Course deals with more advanced methods of research with studio experiences in pottery wheel techniques and glaze research. Class meets six hours a week. Three credits.

CERAMICS WORKSHOP I ........... HAR 5177
Prerequisites: HAR 6193 and HAR 2211 and by permission of division director. This course is for the student who wishes to pursue advanced individual projects under the direction of an instructor. Emphasis is on individual skill building in areas not covered in regular ceramic classes. Class/lab meets six hours a week. Three credits.

METAL AND SILVERSMITHING I .... HAR 3495
Course in basic metalsmithing techniques of casting and constructing brass, copper and silver with the utilization of buffing, sawing, filing and soldering processes. Class meets six hours a week. Three credits.

METAL AND SILVERSMITHING II .... HAR 3496
Prerequisite: HAR 3495. Advanced metalsmithing techniques of casting, constructing and etching utilizing copper, brass, bronze, silver and other metals. Class meets six hours a week. Three credits.

SCULPTURE I .......................... HAR 2089
Course designed to study and explore natural and synthetic sculptural forms and to help the student create a unique, personal body of work through a variety of traditional or contemporary media and techniques. Class meets six hours a week. Three credits.

SCULPTURE II .......................... HAR 3094
Prerequisite: HAR 2089. Continuation of HAR 2089. Focus on advanced methods and techniques. Emphasis on sculptural materials and forms. Class meets six hours a week. Three credits.

WEAVING I ............................ HAR 1192
In this introductory fiber course, projects range from two-harness weaver controlled techniques to more complex procedures involving the use of four-harness floor looms. Three-dimensional woven forms and other fiber techniques will be explored. Class meets six hours a week. Three credits.

WEAVING II ............................ HAR 4020
Prerequisite: HAR 1192. Advanced problems in structural weaving. Multi-harness, draft analysis, comprehensive research. Notebook required. Class meets six hours a week. Three credits.

SMALL LOOM TECHNIQUES .......... HAR 1866
A study of the art of textile construction methods. Course work will deal with fiber properties, spinning and dyeing, single element construction (wrapping, coiling, netting, looping, crocheting), double element construction (braiding, knotting, weaving with a frame, cards, weighted warp or shaped board). Class meets six hours a week. Three credits.

AUTOMOTIVE TECHNOLOGY

AUTOMOTIVE TRANSMISSIONS & DRIVELINES .................................. TAU 5606
In this course the focus is on the theory of the transfer of power from the engine flywheel to the drivewheels. The student will be exposed to the skills necessary to accurately perform troubleshooting procedures for transmission, driveline and differential components. Three hours lecture, three hours lab. Fall, four credits.
AUTOMOTIVE BASIC ELECTRICITY . TAU 5604
Prerequisite: MTH 5722. This course focuses on the fundamentals of series and parallel circuits, magnetism, inductance, capacitance and semiconductors in relation to direct current. The student will also be able to properly connect meters and make correct analysis of circuit problems. Two hours lecture, three hours lab. Spring, three credits.

AUTOMOTIVE ENGINES I .............. TAU 5607
The student will have the opportunity to learn about the theory of the 4-stroke cycle internal combustion engine; the skills for computing compression ratio, piston displacement, horsepower and torque; how to analyze and correct internal engine malfunctions. Two hours lecture, three hours lab. Spring, three credits.

AUTOMOTIVE SUSPENSION, STEERING & BRAKES ......................... TAU 5605
This course stresses the theory of steering geometry, suspension design and brake fundamentals, front and rear suspension problems and the steps in proper sequence for diagnosing brake and steering systems. Two hours lecture, three hours lab. Spring, three credits.

AUTOMOTIVE FUELS AND CARBURETION ....
………………………….. TAU 5609
Prerequisites: EGR 7094, MTH 5722, TAU 5604 and TAU 5607. Topics include the function, operation and construction of carburetors, fuel pumps, injection pumps and injectors in diesel and gasoline engines. Also discussed will be the maintenance of components. Class/lab meets five hours per week. Three credits.

AUTOMOTIVE HEATING, AIR CONDITIONING AND EMISSIONS .......... TAU 5611
Prerequisites: TAU 5604, EGR 7094, MTH 5722, TAU 5607. Topics include the function, construction and operation of automotive heating, air conditioning and emission systems. There will be discussion of the safety procedures needed when working on these systems. Troubleshooting for all systems will be stressed. Class/lab meets six hours a week. Four credits.

AUTOMOTIVE DIAGNOSIS AND EVALUATION ................................. TAU 5612
Prerequisites: TAU 5604, EGR 7094, CEN 7612. Skills necessary for entry-level employment are stressed in this course. Students will be asked to perform tasks related to all phases studied in the first three semesters. Evaluation is based on industry standards. Class/lab meets eight hours a week. Four credits.

AUTOMOTIVE DEALERSHIP OPERATION ..................... TAU 5614
Prerequisite: MTH 5722. This course focuses on a familiarity with the operation of an auto dealership. This course covers building design and physical requirements for covered and uncovered areas. Topics include finances and manpower required, local and state regulations, insurance and factory organization. Class meets three hours a week. Three credits.

AUTOMOTIVE ELECTRICAL SYSTEMS TAU 5608
Prerequisite: TAU 5604. The function, construction and operation of the starting, ignition and charging systems will be covered in this course. The instructor also will explain how to rebuild electrical components and properly test and diagnose all vehicle electrical systems. Two hours lecture and three hours lab each week. Three credits.

BIOMEDICAL EQUIPMENT TECHNOLOGY

BIOMEDICAL EQUIPMENT TECHNOLOGY I ....
………………………….. EMT 7975
Prerequisites: NLS 6186, EET 9826, EET 6036 or concurrent enrollment. Students will examine in detail the special electronic circuits used in biomedical equipment. Introduction to the use of electronics in the health care field. Discussion of microshock and electrical safety testing. Class meets for three hours lecture and three hours lab each week. Fall, four credits.
BIOMEDICAL EQUIPMENT TECHNOLOGY II ..... EMT 9824
Prerequisite: EMT 7975. Students will examine and work on actual biomedical equipment used in major hospitals. Specific repair and maintenance problems will be discussed. The problems facing the biomedical equipment technician, not related to electronics, will be discussed. Class meets for two hours of lecture and three hours of lab each week. Spring, three credits.

BIOMEDICAL INTERNSHIP .......... EMT 4505
Corequisite: EMT 9824. Six hours each week will be spent in an assigned hospital or related position. Learning will be under actual working conditions on actual equipment students will work on when permanently employed. The biomedical department of the institution, in cooperation with the biomedical program coordinator, will evaluate and supervise. One hour lecture, six hours intern each week. Three credits.

BUSINESS

INTRODUCTION TO BUSINESS ... BUS 4282
The nature and scope of business, its component parts and how business is organized and managed; responsibility of business, government and consumers for improving the environment; multinational character of business; external and internal forces that constitute the business and economic system. Class meets three hours a week. Three credits.

PERSONAL FINANCE I ......... BUS 2259
Techniques of money management and the preparation of spending plans in order to fulfill financial goals. Planning consumer spending and allocations resulting in wealth maximization. An understanding of consumer sovereignty and how the consumer functions in the private enterprise system. Use of consumer credit and computing costs of credit; understanding credit instruments; applying compound interest tables in projecting financial goals; understanding how interest is computed on savings accounts; procedures and costs in buying and selling owner-occupied real estate; insurance – life, automobile, property, medical and disability; consumer protection techniques. Class meets three hours a week. Three credits.

PERSONAL FINANCE II .......... BUS 2848
Course focuses on financial planning procedures and explains how to establish financial objectives and identify various types of investments. Topics include how the tax system works in regard to short-term and long-term investments; the ownership of owner-occupied and non-owner occupied real estate; the function of security markets and other types of security investments; investing in collectibles; and the overall development of portfolio of investments based on investment objectives. Class meets three hours a week. Three credits.

SAVINGS AND INVESTMENTS ........ BUS 6038
Investment techniques and procedures to give a broad overview of savings and investment media and tools for financial planning. Basic investment principles; risk and return; developing individual or family investment objectives; compound interest; capital gains and their taxation; savings accounts; time deposits; government securities; money market instruments and funds; pension planning including tax-sheltered programs; financial analysis in making stock, bond and other security investments; real estate investments which are non-owner occupied; and estate planning relating to legal requirements and tax planning. Class meets three hours a week. Three credits.

PERSONAL LAW ................. BUS 3566
Provides a knowledge of law from a personal standpoint. The course is designed to allow the student to become better informed of personal rights and duties in social and business life through a survey of the fundamental laws. Emphasis is on how law facilitates making life orderly, efficient and reasonably just in our highly interdependent society. Class meets three hours a week. Three credits.

BUSINESS LAW I ............... BUS 1121
Basic principles of law that apply to business transactions in the present business environment and legal system. Material is related to Uniform Commercial Code and includes introduction to the study of law, crimes and torts, contracts, sales and commercial paper. Case studies are used. Class meets three hours a week. Three credits.

BUSINESS LAW II .............. BUS 5134
Prerequisite: BUS 1121. Continuation of Business Law I. Includes agency and partnership, personal property, real property, secured transactions and corporations. Case studies are used. Class meets three hours a week. Three credits.
BASIC ECONOMICS ............... BUS 4512
Basic principles governing the economy are studied in
the context of current social issues. Designed for
students planning to take only a single course in
economics and for those who want a nontechnical in-
troduction to the subject. Topics to be selected
according to the interests of the class. Class meets
three hours a week. Three credits.

ECONOMICS I ................... BUS 2253
Fundamental problems and contemporary approaches
to economics. Topics include the basic elements of
supply and demand; prices; national income deter-
nminations; money and banking; monetary and fiscal
policy. Class meets three hours a week. Three credits.

ECONOMICS II ................... BUS 3093
Prerequisite: BUS 2253. Continuation of Economics I
with emphasis on supply and demand, theory of the
firm and market structures. Class meets three hours a
week. Three credits.

MARKETING ..................... BUS 7007
Study of all marketing activities that direct the flow of
goods and services from the producer to the ultimate
consumer. Emphasis on the problems and policies of
manufacturers, wholesalers and retailers in the
distribution of goods and services. Class meets three
hours a week. Three credits.

PERSONNEL MANAGEMENT ....... BUS 2341
Personnel functions as they relate to management
philosophy in employee procurement, placement,
training, retention, job evaluation, wage administra-
tion, performance rating and welfare services. Class
meets three hours a week. Three credits.

PRINCIPLES OF MANAGEMENT ...... BUS 7822
This course presents the basic fundamentals of
management aimed at the middle management level.
Emphasis will be on the behavioral aspects of modern
management, MBO/MBR, and the functions of plan-
ning, organizing, directing and control. Class meets
three hours a week. Three credits.

PRINCIPLES OF SUPERVISION ........ BUS 5360
This course covers the various techniques of successful
supervision of rank and file employees. Supervision
means achieving desired results with the efforts of
others and involves the planning, organizing and
directing of non-management personnel. Class meets
three hours a week. Three credits.

BUSINESS COMMUNICATIONS ........... BUS 1007
Prerequisite: CEN 7612. This course encompasses four
basic areas: reading skills, listening skills, verbal and
nonverbal communications and written communications
including memos, letters and reports. Class
meets three hours a week. Three credits.

PRINCIPLES OF REAL ESTATE I ........ BUS 2970
A course in the fundamentals, principles and pro-
cedures followed in the ownership or transferring of
real estate along with the rights and interests held.
Topics include what real estate represents; the
economic characteristics of real estate resources; pro-
erty rights and ownership interests; contracts in real
estate transactions; deed and conveyance instru-
ments; mortgages; title and legal descriptions; basic
financial concepts regarding capitalization and pre-
sent value; and sources of real estate credit. Class
meets two hours a week. Two credits.

PRINCIPLES OF REAL ESTATE II .... BUS 2971
Prerequisite: BUS 2970. Course includes the funda-
amentals of brokerage; title conveyance procedures,
including title insurance and abstracts; title closing;
valuation of real estate; property insurance; real estate
investment analysis; property management; and tech-
niques and tools of land-use controls. Class meets two
hours a week. Two credit.

REAL ESTATE CONTRACTS .......... BUS 2975
An introduction to the categories and types of con-
tracts and the application of the Statute of Frauds in
the real estate profession. Class meets two hours a
week. Two credits.

REAL ESTATE FINANCE .......... BUS 2974
Coverage of the most commonly used methods of
financing real property, and institutions involved.
Emphasis on the familiarity with financing ter-
m inology and providing a familiarity with the
economic effects of money and interest rates along
with the role of the secondary markets. Class meets
two hours a week. Two credits.

KANSAS REAL ESTATE PRE-LICENSE
INSTRUCTION ................ BUS 5027
Designed to prepare individuals to take the Kansas
Real Estate Examination. The course is divided into
two parts: a uniform portion dealing with general in-
formation about real estate and a statutory part cover-
ing Kansas license laws and rules and regulations. A
review of real estate mathematics is included. Class
meets three hours a week. Three credits.

GENERAL INSURANCE .......... BUS 1390
Covers basic terminology, principles of insurance, risk
and risk management and insurance contracts. Re-
views all lines of insurance, including life, health and
disability, property and liability. Also analyzes the
inroads of social insurance and its impact on the in-
surance industry. The course program has been coor-
dinated with the Insurance Institute of America. Class
meets three hours a week. Three credits.

PRINCIPLES OF INSURANCE .......... BUS 1446
Prerequisites: BUS 4282 and BUS 2259. This course is
for students seeking a basic understanding of the prin-
ciples of insurance. It will cover the basic ter-
m inology of insurance and review the major cate-
gories such as life, health, property and liability. Class
meets three hours a week. Three credits.

MANAGEMENT ATTITUDES AND
MOTIVATION ................ BUS 4029
Class discussion, group projects and role-playing
situations are designed to let the student experience
awareness of self; examine own attitudes; improve
COMMERCIAL ART

COMMERCIAL ART

BASIC REPRESENTATION I ............ HCA 6862
An introduction to basic pictorial representation as it is applied in commercial art. Emphasis is placed on the accurate rendering of objects and on the development of visual communications skills. Class meets six hours a week. Three credits.

BASIC REPRESENTATION II ............ HCA 5863
Prerequisite: HCA 6862. A continuation of Basic Representation I, emphasizing the analysis and rendering of more complex forms, as well as the application of additional and more sophisticated tools, equipment, materials and processes commonly used by the commercial artist. Class meets six hours a week. Three credits.

LETTERING .......................... HCA 7205
A study of the evolution of the alphabet, the development of letter forms and of lettering techniques focusing on contemporary typographic design. Hand and transfer lettering as well as mechanically-produced letter forms will be explored. Class meets six hours a week. Three credits.

VISUAL TECHNOLOGY I ............. HCA 4679
Prerequisite or corequisite: HCA 1861. A practical exploration of the materials, tools and processes required for graphic reproduction. Emphasis will be placed on the acquisition of skills relating to the production methods and techniques necessary for the preparation of camera-ready art. Class meets eight hours a week. Four credits.

VISUAL TECHNOLOGY II ............. HCA 6688
Prerequisite: HCA 4679. A continuation of Visual Technology 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. Class meets eight hours a week. Four credits.

LAYOUT ............................. HCA 1861
Prerequisite: HAR 2880. Corequisite: HCA 7205. Introduction to advertising and editorial layout. Information and techniques necessary to the effective composition of verbal and visual messages designed for publication. Class meets six hours a week. Three credits.
PREPARATION OF PORTFOLIO ........ HCA 7690
Prerequisite: Permission of coordinator. This course will focus on the selection and mounting of student work for inclusion in professional portfolios. Two- and three-dimensional examples will be included. Class meets four hours a week. Two credits.

COMMERCIAL ART FIELD STUDY .......... HCA 5691
Prerequisite: Permission of coordinator. Students work an average of 15 hours a week in an approved professional studio under instructional staff supervision. Emphasis is placed on an increased understanding of the kind and quality of work done in a professional environment. Class meets two hours a week. Three credits.

AIRBRUSH TECHNIQUES ............... HCA 8853
Prerequisite: HCA 6862. An introduction to basic airbrush techniques and materials and to their application in both fine and commercial art. Emphasis will be placed on commercial applications. Class meets six hours a week. Three credits.

MILLWORK AND FINISH ............... TCM 9127
In this course emphasis will be on how to identify and properly use basic hand tools, portable power tools and stationary power tools associated with the building trades; build, hang and trim a door unit; properly trim a window; install baseboard with a cope and miter joint; machine and fit cabinet joints, doors and hardware; recognize quality millwork and finish. Two hours lecture, three hours lab. Three credits.

MATERIALS AND PROPERTIES ......... TCM 9136
The focus of this course will be how to perform basic ASTM Standard Quality Control Tests on concrete, and to demonstrate a basic knowledge of the physical properties of concrete. Two hours lecture, three hours lab. Spring, three credits.

SITE PLANNING AND FOUNDATIONS .... TCM 9123
This course is designed to teach students how to identify a piece of property by legal description, to locate the property corner and boundaries and to stake out a building site; set footing and foundation forms; place concrete and screed level in footings and foundations. Two hours lecture, six hours lab. Spring, four credits.

CONSTRUCTION AND MAINTENANCE TECHNOLOGY

INTRODUCTION TO ELECTRICITY .... TCM 9122
In this thorough introduction to the electrical field, students will be exposed to the theory as applied to the technologies; D.C. circuits; A.C. installations; bench projects typical of simple and complex circuits; basic knowledge of generators and motors. Students will be required to assemble circuits with emphasis on safety, troubleshooting, diagnosis and installation methods. Basic code regulations will be reviewed as they apply to each individual application. Two hours lecture and three hours lab each week. Three credits.

CONCRETE AND MASONRY ............ TCM 9134
This course is designed to enable the student to explain the history, manufacture, characteristics and types of Portland cement; properly design a concrete mix; hand mix, machine mix and place concrete; properly design a mortar mix; hand mix and machine mix mortar; and lay masonry units. Two hours lecture, three hours lab. Fall, three credits.

ENVIRONMENTAL SYSTEMS .......... TCM 9135
This course will emphasize how to identify and properly use the basic plumbing tools; perform maintenance procedures on and install typical plumbing fixtures; identify and properly use the basic electrician's tools; demonstrate a knowledge of wiring materials and methods; make electrical connections and install circuits. Two hours lecture, three hours lab. Fall, three credits.

FIELD STUDY AND CONFERENCE .... TCM 9215
Prerequisite: 24 semester hours of credit in construction or maintenance. Ten weeks or 350 hours of on-the-job training designed to provide the student with the opportunity to work and gain knowledge in construction or a related occupation. Four credit hours.

CONCRETE CONSTRUCTION .......... TCM 9126
Topics in this course include the design and structural strength of reinforced concrete; development of reinforcement; the control of deflections; and the design of rectangular and T-beams. Two hours lecture, three hours lab each week. Three credits.

CONSTRUCTION MANAGEMENT .... TCM 9137
Prerequisite: MTH 5722. In this study of personnel management, topics will include personnel selection; preparation of progress schedule; contracts; daily project reports; weekly cost reports; monthly progress meetings; estimates for payments; letters, documentation; damages; and job close out. Three hours lecture each week. Three credits.
BUILDING CONSTRUCTION I ........ TCM 9120
Prerequisite: MTH 5722. In this course, students can get field experience in building construction. Students will study the layout of all framing members in residential construction and roofing and exterior trim and will assemble these components and materials on an actual residential home. Theory will be covered in lectures. One hour lecture, six hours lab. Three credits.

BUILDING CONSTRUCTION II ........ TCM 9131
Prerequisites: TCM 9127 and TCM 9120. In this course on the finish aspect of construction, students will install and finish drywall and interior trims and construct and finish cabinets in a residential home. Students also will install wall and floor coverings and paint. Theory will be covered in lecture. One hour lecture, six hours lab each week. Three credits.

DATA PROCESSING

BUSINESS DATA PROCESSING ........ BDP 7135
This nontechnical course will include consideration of social and economic implications of computers in government and business. Students operate the keypunch and time-sharing terminal in learning to write and run simple computer programs. Class meets three hours a week. Three credits.

PROGRAMMING FUNDAMENTALS .... BDP 6699
This technical course is designed to prepare an individual for enrollment in any programming language course. Keypunch and advanced terminal usage are covered. Flowcharting and writing BASIC computer programming are stressed. Digital computer equipment is used to run the programs. Data coding and numbering systems are covered. Class meets three hours a week. Laboratory by arrangement. Four credits.

EDITOR ....................... BDP 5105
Prerequisite: BDP 6699. This introductory course, the focus will be on how students can use an EDITOR to create and manipulate files on a computer. The class will cover how characters, strings of characters or entire lines of characters can be inserted, deleted, replaced, modified, searched for and otherwise manipulated by using an EDITOR. Three hours lecture and five hours lab each week for three weeks. One credit.

FUNDAMENTALS OF BASIC ........ BDP 4049
This technical course gives individuals an understanding of the BASIC programming language. Keypunch and data coding are covered. Terminals are used to enter and debug programs in the BASIC language. Emphasis is on the micro computer. This course is not a substitute for BDP 6699 (Programming Fundamentals). Class meets three hours a week. Three credits.

COBOL I ....................... BDP 4700
Prerequisite: BDP 6699 and BDP 5105. BDP 5105 may also be taken as a corequisite. Use of COBOL programming language in solving typical problems. Emphasis on function and use of statements in the four divisions of ANSI COBOL. Computer used in compiling and executing the programs. Class meets three hours a week. Laboratory by arrangement. Four credits.

COBOL II ....................... BDP 1702
Prerequisite: BDP 4700. Advanced COBOL programming techniques, use of ANSI COBOL to solve problems with data on a direct access device. Methods of building, maintaining and using files in a sequential, random and indexed manner. Sort and Report Writer features are also studied. Computer used in compiling and executing programs. Class meets three hours a week. Laboratory by arrangement. Four credits.

ASSEMBLER LANGUAGE I .......... BDP 1698
Prerequisite: BDP 6699 and BDP 5105. BDP 5105 may also be taken as a corequisite. Use of Assembler language in solving typical problems. Emphasis on the statements used in ALC. Computer used in compiling and executing the programs. Class meets three hours a week. Laboratory by arrangement. Fall, four credits.

ASSEMBLER LANGUAGE II .......... BDP 1684
Prerequisite: BDP 1698. Advanced features of Assembler language for IBM 370. Covers Macros, subprograms, table handling, the complete set of ALC instructions and the different methods of file access. Class meets three hours a week. Laboratory by arrangement. Spring, four credits.

FORTRAN ............... BDP 6703
Prerequisite: MTH 3001 and BDP 5105. BDP 5105 may also be taken as a corequisite. Use of FORTRAN programming language in solving typical problems. En-
phasis on the vocabulary and grammar of ANSI FORTRAN. Computer used in compiling and executing the programs. Class meets three hours a week. Laboratory by arrangement. Four credits.

OS/VSE JOB CONTROL LANGUAGE ......... BDP 6005
Prerequisite: BDP 4700 or BDP 1698 or equivalent work experience. Use of OS/VSE JCL with typical applications. Emphasis on Rules of Coding JCL, optimizing resources, overriding statements, use of symbolic parameters. Computer applications of JCL. Class meets three hours a week. Fall, three credits.

PASCAL .................................. BDP 4023
Prerequisite: BDP 4700 or BDP 1698 or BDP 6703. Use of PASCAL programming language in solving typical problems. Emphasis on function and use of statements in writing structured code. Computer used in compiling and executing the program. Class meets three hours a week. Laboratory by arrangement. Four credits.

RPG II BEGINNING .................... BDP 7683
Prerequisite: BDP 6699 and BDP 5105. BDP 5105 may also be taken as a corequisite. Use of various approaches to RPG II problem solving. Define, code, test, debug and document RPG II programs. Control levels and subroutines are covered. Computer used in compiling and executing programs. Class meets three hours a week. Laboratory by arrangement. Spring, four credits.

RPG II ADVANCED ..................... BDP 5832
Prerequisite: BDP 7683. Use of advanced features in the RPG II language. Study of disk file techniques, disk utilities, tables and array methodology. Sequential, indexed and direct access methods are covered. Computer used in compiling and executing programs. Class meets three hours a week. Laboratory by arrangement. Fall, three credits.

TELEPROCESSING ....................... BDP 7224
Prerequisite: BDP 6699. A form of information handling in which a data processing system utilizes communication equipment. Concern with that part of the system external to the central computer. Class meets three hours a week. Fall, three credits.

DATA FILE MANAGEMENT ............... BDP 1036
Prerequisites: BDP 1698, 4700, 7683, 6703 or equivalent work experience. Comprehensive coverage of data management techniques. Data items are discussed in relation to records, files and data bases. File organizations and access methods are discussed. Concepts are integrated into the development of an inquiry data base. Techniques and potential uses of data base systems in industry and business are also included. Class meets three hours a week. Spring, three credits.

INTRO. TO SYSTEM DESIGN AND ANALYSIS . . . .
........................................ BDP 4551
Prerequisites: BDP 4700, 6703, 1698 or 7683. Basic philosophy and techniques in development and use of business information systems. Emphasis on the human elements and people involvement necessary in systems design and implementation. Addresses the use of specific technical approaches available in relation to information processing. Class meets three hours a week. Fall, three credits.

OPERATING SYSTEMS .................. BDP 6451
Prerequisite: BDP 1698 or BDP 4700 or equivalent work experience. Basic concepts and principles of a digital computer operating system. Interrelationships between hardware and software and how they are controlled are illustrated through study of a typical digital computer system. Class meets three hours a week. Spring, three credits.

APPLICATION PROGRAMMING: APPLICATIONS
........................................ BDP 3868
Prerequisite: Permission of coordinator. Corequisite: BDP 4700, 6703, 7683 or 1698. Computer operations 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. Hours by arrangement. Fall, two or three credits.

APPLICATION PROGRAMMING: DATA
PROCESSING TOPICS .................... BDP 3869
Prerequisite: Permission of coordinator. Corequisite: BDP 4700, 6703, 7683 or 1698. 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. Hours by arrangement. Spring, two or three credits.
DENTAL ASSISTING

FUNDAMENTALS OF DENTISTRY I . . . NDA 2041
Prerequisite: Admission to Dental Assisting Program. The student will be introduced to the functions of the dental health team and the scope of service of the dental assistant. Histology, embryology, dental materials and the manipulation of the dental materials in a laboratory procedure. Class meets seven hours a week. Five credits.

FUNDAMENTALS OF DENTISTRY II . . . NDA 1044
Prerequisite: NDA 2041. The student will be introduced to patient psychology with emphasis on maturation, emotion and personality, fundamentals of dental radiography, techniques of dental radiographs and the use of dental materials. Class meets six hours a week. Four credits.

FUNDAMENTALS OF DENTISTRY III . . . NDA 2855
Prerequisite: NDA 1044 and 1052. The student will record and maintain accurate dental records, identify and describe dental diseases and learn concepts and perform techniques related to chairside assisting. Class meets six hour a week. Four credits.

FUNDAMENTALS OF DENTISTRY IV . . . NDA 5048
Prerequisite: NDA 2855. The student will identify drugs associated with dental treatment, demonstrate usage, care and dosage of medicine with emphasis placed on the Dental Code of Ethics and apply the principles of business administration to the dental office. Class meets three hours a week. Three credits.

PRECLINICAL PRACTICE . . . . . . . . NDA 1052
Prerequisite: NDA 1044. The student will participate in the orientation and identification of the various operative procedures, including chairside assisting, instrumentation and maintenance of equipment, with special study of the expanded functions governed by the Missouri Dental Practice Act. Class meets five hours a week. Four credits.

CLINICAL PRACTICE I . . . . . . . . NDA 1047
Prerequisite: NDA 1044 and 1052. The student will have the opportunity to adapt and successfully apply the knowledge and techniques acquired in the classroom to the clinical environment. Evaluations of all operative and specialty procedures will be made. Class meets ten hours a week by arrangement. Three credits.

CLINICAL PRACTICE II . . . . . . . . NDA 6050
Prerequisite: NDA 1047. The student will receive advanced training in dental operative and specialty procedures including performance evaluations. Fifteen hours a week by arrangement. Five credits.

DENTAL HYGIENE

CLINICAL DENTAL HYGIENE I . . . . . . . . NDH 7252
Prerequisite: Admission to Dental Hygiene Program. Corequisites: NDH 2339, NPS 6634, NDH 7253. History, development, current status and future implications of dental hygiene profession. Introduction to dental hygiene techniques and instrumentation, patient evaluation, primary preventive treatment, auxiliary procedures and aseptic techniques. Class meets thirteen hours a week, including two hours of lecture and eleven hours of lab. Six credits.

DEVELOPMENTAL DENTISTRY . . . . . NDH 7253
Corequisites: NDH 2339, NPS 6634, NDH 7252. Study of embryology, oral histology and dental morphology and occlusion. Description of normal and abnormal growth and development of the face, oral cavity and related structures. Identification and description of deciduous and permanent dentitions. Utilization of dental nomenclature in identification and classification of occlusion. Explanation of protective function and forms of teeth and supporting structures and description of dental anomalies. Class meets four hours a week, including three hours of lecture and one hour of lab. Three credits.

CLINICAL DENTAL HYGIENE II . . . . . . . . NDH 7254
Prerequisites: NDH 7252, NDH 7253, NDH 2339, NPS 6634 and no grade below a "C." Corequisites: NDH 6266, NLS 6152, NLS 1144, NDH 7255, NDH 7256. Clinical application of dental hygiene techniques and instrumentation, oral physiotherapy, patient motivation and education techniques, diet analysis and counseling. Emergency procedures for medical and dental emergencies which may be encountered in the dental office. Class meets ten hours a week, including two hours of lecture and eight hours of clinic. Five credits.

PERIODONTICS . . . . . . . . . . NDH 7255
Prerequisites: NDH 7252, NDH 7253, NDH 2339, NPS 6634 and no grade below a "C." Corequisites: NDH 6266, NLS 6152, NLS 1144, NDH 7254, NDH 7256. Description of the inflammation process and its relationship to the pathogenesis of periodontal disease.
Recognition and identification of the various periodontal diseases, their etiology, signs and symptoms. Lecture only. Class meets one hour a week. One credit.

DENTAL HEALTH EDUCATION ........... NDH 7256
Prerequisites: NDH 7252, NDH 7253, NDH 2339, NPS 6634 and no grade below a "C." Corequisites: NLS 1144, NLS 6152, NDH 6266, NDH 7255, NDH 7254. A study of the principles of educational methods and their use in health education as they apply to both individual and group development, with particular attention to psychological, social and economic factors. Class meets two hours a week. Lab only. One credit.

CLINICAL DENTAL HYGIENE III ........ NDH 7257
Prerequisites: NDH 7256, NDH 7252, NDH 7254, NDH 2339, NDH 6266, NDH 7253, NDH 7255, NLS 1144, NLS 6152, NPS 6634 and no grade below a "C." Corequisites: NDH 7258, 7259, 7260, 5250. Continued development of proficiency in clinical techniques including preparation and application of dental hygiene treatment plans and expanded functions. Class meets eighteen hours a week, including two hours of lecture and 16 hours of clinic. Seven credits.

DENTAL THERAPEUTICS ............... NDH 7259
Prerequisites: NDH 7256, NDH 7252, NDH 7254, NDH 2339, NDH 6266, NDH 7253, NDH 7255, NLS 1144, NLS 6152, NPS 6634 and no grade below a "C." Corequisites: NDH 7258, 7257, 7260, 5250. An introduction to basic principles of drug actions, interactions, practical application and familiarization and appropriate selection of professional products. Although the course will emphasize dental-related therapeutics, it will also provide information related to drugs associated with common system disorders. Also included is the study of factors which are necessary to properly administer local anesthesia. Class meets three hours a week. Three hours of lecture (one hour of lab for eight weeks). Three credits.

COMMUNITY DENTAL HEALTH ........ NDH 7260
Prerequisites: NDH 7252, NDH 7254, NDH 2339, NDH 6266, NDH 7253, NDH 7256, NDH 7255, NLS 1144, NLS 6152, NPS 6634 and no grade below a "C." Corequisites: NDH 7257, 7258, 7259, 5250. Study of public health agencies and their functions, application of basic statistical procedures in critiquing scientific literature, identification of dental needs of people of different ages, socioeconomic backgrounds and mental and physical abilities, application of dental indices. Recognition of factors involved in planning dental health education programs within school systems. Field experience is included. Class meets four hours a week, including one hour of lecture and three hours of lab. Two credits.

CLINICAL DENTAL HYGIENE IV ........ NDH 7261
Prerequisites: NDH 7252, NDH 7254, NDH 7257, NDH 2339, NDH 7253, NDH 7256, NDH 7260, NDH 7255, NDH 7258, NDH 7259, NDH 6266, NDH 5250, NLS 1144, NLS 6152, NPS 6634 and no grade below a "C." Continued development of proficiency in clinical techniques and current procedural practices of the dental hygienist with emphasis on self evaluation. Principles of dental hygiene ethics and jurisprudence, methods of efficient dental office management and current dental hygiene issues are included. Class meets eighteen hours a week, including two hours of lecture and sixteen hours of clinic. Seven credits.

HEAD AND NECK ANATOMY ............. NDH 2339
Corequisites: NDH 7252, NDH 7253. Basic concepts of gross anatomy with detailed emphasis on the head and neck. Embryology of head and neck is included. Class meets five hours a week, including two hours of lecture and three hours of lab. Three credits.

DENTAL MATERIALS ................. NDH 5250
Prerequisites: NDH 7252, NDH 7254, NDH 2339, NDH 6266, NDH 7253, NDH 7256, NDH 7255, NLS 1144, NLS 6152, NPS 6634 and no grade below a "C." Corequisites: NDH 7257, 7258, 7259, 7260. Components of restorative, prosthetic and preventive materials utilized in dentistry with emphasis on manipulation and utilization. Expanded functions in the laboratory. Class meets four hours a week, including one hour of lecture and three hours of lab. Two credits.
DENTAL RADIOLOGY .............. NDH 6266
Prerequisites: NDH 7252, NDH 2339, NDH 7253, NPS 6634 and no grade below a "C."
Corequisites: NDH 7254, NLS 6152, NLS 1144, NDH 7255, NDH 7256. Theory of exposing, processing, mounting and evaluating oral radiographs. Paralleling and bisected angle techniques. Emphasis on radiation protection for patient and operator. Class meets four hours a week, including one hour of lecture and three hours of lab. Two credits.

PICTORIAL DRAFTING .............. EDT 7812
Prerequisite: EDT 5810 or permission of program coordinator. Theory and practical applications of three-dimensional pictorial views; axonometric, obliques and perspectives. Use of time-saving devices and applications, i.e., templates, proportional dividers, shading film, photo drafting. Class/lab meets four hours a week. Spring, two credits.

REPROGRAPHICS I .............. EDT 1813
Corequisite: EDT 5810. Reproduction processes and techniques typically used by industry. Diazo-white printing, sepia intermediates, wash-off film. Practical applications of photodrafting, microfilming, overlays, scissors drafting and metal plate making. Class/lab meets four hours a week. Fall, two credits.

TECHNICAL DRAFTING I .............. EDT 5810
Industrially structured to provide activities and experiences typical of those encountered by drafting technicians: applied and descriptive geometry, orthogonal projection, sketching, lettering, U.S. and metric measurement, basic conventions and dimensioning, production drawings, detail, section, auxiliary and assembly. Class/lab meets ten hours a week. Fall, five credits.

ARCHITECTURAL DRAFTING .............. EDT 2915
Prerequisite: EDT 5810. Applications of architectural drawings used for commercial and industrial construction. Emphasis on techniques, terminologies, symbolization and methods of construction. Class/lab meets six hours a week. Fall, three credits.

TECHNICAL DRAFTING II .............. EDT 2811
Prerequisite: EDT 5810 or permission of program coordinator. Continuation of Technical Drafting I with emphasis on developments, fasteners, precision dimensioning, tolerancing, specifications and manufacturing processes. Class/lab meets ten hours a week. Spring, five credits.

STRUCTURAL DRAFTING .............. EDT 1916
Prerequisite: EDT 2915. Emphasis on the development of drafting practice and knowledge required for drafting technicians working in structural fabrication shops or engineering and design firms. Terminologies, materials and structural systems for concrete, steel and heavy timber. Class/lab meets six hours a week. Spring, three credits.

ELECTRICAL DRAFTING .............. EDT 5924
Prerequisites: EDT 5810 and 2811 or concurrent with 2811. Introduction to electrical drafting practices in such areas as signaling systems, lighting, power generation, transmission and distribution. Drawing activities oriented to those prescribed by local engineering and design firms. Terminologies, abbreviations, symbols, specifications, use of vendor catalogs. Class/lab meets six hours a week. Spring, three credits.

PROCESS PIPING I .............. EDT 4014
Prerequisites: EDT 5810 and 7812 or permission of program coordinator. Introduction to the drawings required in fabrication and erection of process piping systems. Emphasis on symbols, terminologies, specifications, types of valves and fittings. Practical applications of floor diagrams, site plans, isometric spool
drawings, dimensioning and material lists. Class/lab meets six hours a week. Fall, three credits.

TECHNICAL ILLUSTRATION .................. EDT 2297
Application of techniques used by technical illustrators. Conversion of engineering drawings to three-dimensional isometric, dimetric, trimetric and perspective views using various drawing media and graphic aids. Training in the use of technical illustration equipment and photoreproduction processes. Class/lab meets six hours a week. Fall, three credits.

TOOL DESIGN ............................... EDT 7407
Prerequisite: EGR 1243. Problems in the design, construction and operation of dies, jigs and fixtures. Six hours of laboratory a week. Three credits.

INTERPRETING ARCHITECTURAL DRAWINGS .................. EDT 4011
A beginning course providing fundamentals in the interpretation of architectural type drawings (blueprints). Involves theory of engineering drawings, dimensioning, sectioning and details. Actual construction plans are used in the areas of residential, commercial and industrial. Class meets two hours a week. Fall, two credits.

INTERPRETATION OF WELDING DRAWINGS .................. EDT 6016
An introductory course in the interpretation of welding drawings (blueprints) with emphasis on view visualization, sectioning, dimensioning, abbreviations and symbols. ANSI and AWS standards are followed. Sketching and use of actual industrial prints provided. Class meets two hours a week. Fall, two credits.

INTERPRETING MACHINE DRAWINGS .................. EDT 4012
A basic course designed to provide a practical knowledge in reading machine drawings from actual blueprints. Involves the fundamentals of orthographic projection, dimensioning, geometric form tolerancing, standard symbols and sections as they apply to machine drawings. Spring, two credits. Class meets two hours a week.

BUILDING CONSTRUCTION ESTIMATING .................. EDT 1229
Introduction to the basic and fundamental principles of taking off quantities of building materials as required by the building construction contractor using working drawings, reference books and tables to perform estimates. Class meets three hours a week. Spring, three credits.

CARTOGRAPHY AND LAND SURVEYING .................. EDT 4015
Prerequisites: MTH 2942 or MTH 2594 and EDT 5810 or permission of coordinator. Introduction to basic applications of map drafting and methods of land surveying typically used by engineering firms. Includes profiles, map plotting and layout from notes, operations and care of equipment, record keeping and field problems. Class meets six hours a week. Spring, three credits.

ELECTRONICS TECHNOLOGY

INTRODUCTORY ELECTRONICS .................. EET 5290
Familiarization with laboratory instruments, circuit components and basic measurement techniques. Introduction to basic circuits. One hour of class and six hours of laboratory a week. Three credits.

CIRCUIT ANALYSIS I .......................... EET 3409
Prerequisites: EET 5290 and MTH 9000 or concurrent enrollment. Fundamental AC and DC circuit concepts such as Kirchoff's Laws, Ohm's Law, Thevenin's Theorem, Norton's Theorem, Superposition Theorem and nodal analysis. Class meets three hours a week. Three credits.
CIRCUIT ANALYSIS II .......... EET 6029
Prerequisites: MTH 9001 or concurrent enrollment and EET 3409. Fundamental concepts of AC circuit analysis and transient circuit analysis as applied to circuits containing resistors, capacitors and inductors. Class meets three hours a week. Three credits.

ELECTRONIC COMMUNICATION SYSTEMS ........ EET 2468
Prerequisite: EET 9826. Theory of electronic communication systems, including AM and FM radio receivers and transmitters, antennas, broadcast stations, television and microwave. Three hours of class a week. Spring, three credits.

MICROPROCESSORS .......... EET 4503
Prerequisite: EET 6036. Introduction to the microprocessor and to microprocessor architecture. An overview of microprocessor programming and applications. Emphasis on laboratory experience with the microprocessor. Two hours of lecture and three hours of lab each week. Three credits.

EMERGENCY MEDICAL TECHNOLOGY

EMERGENCY MEDICAL TECHNOLOGY NET 6441
Classroom instruction includes basic anatomy and physiology and patient assessment and treatment of medical and trauma-related conditions. Practical skills such as CPR are taught in lab sessions. In addition, students will have ten hours of in-hospital observation. Students successfully completing this course will meet the prerequisite for taking the EMT-A registry exams and will be required to pay an examination fee. Five credits.

CPR I--BASIC RESCUE ........... NET 2140
Overview of the cardiovascular and respiratory systems. Techniques of one-person, two-person and infant CPR, and management of an airway obstruction are taught. Upon successful completion of this course, the student will be certified by the American Heart Association as a Basic Rescuer. Class meets two hours a week for eight weeks. One credit.

CPR II--BASIC CPR INSTRUCTOR .......... NET 2141
Prerequisite: NET 2140 or current Basic Rescuer certification by the American Heart Association. Review of techniques taught in CPR I. Methodology of teaching. Designing and implementing CPR courses. Demonstration of mastery performance and mini-lectures. Upon successful completion of this course, the student will be certified by the American Heart Association as a Basic CPR Instructor. Class meets two hours a week for eight weeks. One credit.

BASIC CARDIOLOGY AND EKG RECOGNITION .......... NET 2142
Prerequisite: Consent of the program coordinator. Basic anatomy and physiology and electrophysiology of the cardiac system. Introduction to EKG monitoring equipment designed to provide students with the ability to recognize normal and abnormal EKG tracings. Overview of coronary artery disease and pharmacological intervention is reviewed. Class meets two hours a week. Class limited to 30. Two credits.
ENERGY TECHNOLOGY

BASIC PRINCIPLES OF HVAC . . . . . . . TEN 6541
The class covers the function, design, construction features, operation, adjustment, inspection and repair of small-scale residential heating and cooling systems, and various commercial refrigeration and air movement systems. Three hours of lecture and three hours of lab a week. Fall, four credits.

RESIDENTIAL HVAC SYSTEMS . . . . . . . TEN 6546
Prerequisite: TEN 6541. Detailed study of major components and accessories as they relate to the total heating system. Topics include load calculation for steam and hot-water systems design, application of boilers, unit ventilators, unit heaters, make-up air and infrared heaters. Laboratory work includes testing and balancing procedures; fuel equipment adjusting and servicing; electrical system adjusting and servicing; troubleshooting; installation of steam, water and electric heating systems. Also covered will be the design conditions and capacity requirements for the selection of proper air conditioning equipment; design and construction of piping and duct work required to properly distribute conditioned air; performance requirements of air handling equipment using the psychometric chart to predict performance and to measure results; air balancing and hydronic balancing for proper performance; and electrical aspects of the systems and various types of controls. Two hours of lecture and three hours of lab a week. Three credits.

RESIDENTIAL HVAC ESTIMATING . . . . TEN 6567
This course covers the techniques and procedures used by industry in making interpretations from drawings and specifications and in determining labor costs for the installation of various air conditioning, refrigeration and heating systems. Students will be required to make estimates from mechanical plans for specific structures. Three hours of lecture each week. Three credits.

FLUID DISTRIBUTION SYSTEMS . . . . . . TEN 6542
Corequisite: TEN 6541. A theory and applications course dealing with the movement of various fluids such as air, oil and Freon. The student will make various tests and diagnoses and repair the majority of HVAC used in residential and light commercial construction today. Students will perform various air balancing and hydronic balancing for proper performance of various systems. Two hours of lecture and three hours of lab a week. Fall, three credits.

INSTRUMENTATION AND CONTROL DEVICES . . . . . TEN 6543
Prerequisite: TEN 6541. An introduction to various controls for HVAC system such as flow switches, thermostats, motor controls and float valves. The exploration of cooling towers and heat pump applications. Three hours of lecture and three hours of lab a week. Four credits.

ELECTROMECHANICAL SYSTEMS . . . . TEN 6544
An electrical course in the relationship of all components and the various repair and troubleshooting techniques. Students will study sizing, retrofitting, load calculations and repair applications. Two hours of lecture and three hours of lab a week. Spring, three credits.

COMMERCIAL SYSTEM AND DESIGN . . TEN 6550
Prerequisites: TEN 6444, TEN 6541. A study of commercial and industrial application of refrigeration for efficiency and economic use. The students will calculate heat loads for coolers and freezers; select and match equipment for efficiency and economy and determine the size of cooling towers, evaporative condensers, water cooled condensers, air cooled condensers, pumps and refrigerant lines needed for a specific installation. Three hours of lecture and three hours of lab each week. Four credits.

DIAGNOSIS AND SERVICE PROCEDURES . . . . . . . . . . . TEN 6548
Prerequisites: TEN 6444 and TEN 6541. This course provides instruction in maintaining, installing and troubleshooting commercial and industrial application of refrigeration. Students will have the opportunity to troubleshoot and wire control circuits, diagnose malfunctions with testing equipment; and correct malfunctions in commercial and industrial refrigeration units. Two hours of lecture and three hours of lab each week. Three credits.

ENERGY ALTERNATIVES . . . . . . . TEN 6547
This course concentrates on the diverse methods of alternate energy production and emphasizes the most effective technologies available. Technologies discussed include wind energy, photoelectric energy, biomass and alternate fuel vehicles. Students will study the advantages of using various alternate energy
technologies, the impact and by-products of each and possible problems. Three hours of lecture each week. Fall, three credits.

INTRODUCTION TO SOLAR ALTERNATIVES ..................................... TEN 6557
This is an overview of solar installations, data sources and elements used in the passive and active solar activities and the relationship for small-scale applications. Students will be exposed to other solar alternatives such as photovoltaic, wind, biomass and related topics. Also included will be discussion of conservation techniques, shelter design, fuels and nuclear power. Two hours of lecture, three hours of lab each week. Fall, three credits.

SOLAR DESIGN AND INSTALLATION ............................................ TEN 6558
This course covers practical approaches to the design of solar systems for the production of heat and electricity; optimum systems for different types of building structures and needs; and types of active solar components and methods. The course will include a brief overview of hybrid systems which combine conventional heating sources and systems with solar. Site-built and commercially manufactured solar components and systems will be compared. Students will be required to build working systems and models from designs. Three hours lecture and three hours lab each week. Fall, four credits.

PASSIVE SOLAR FUNDAMENTALS ................................................. TEN 6559
In this study of solar technologies, students will deal with architectural treatments of existing structures including greenhouses; solariums; sun spaces; trombe walls; direct and indirect solar gain; and other solar options. Also covered will be calculation of expected heat input of various passive solar additions. Students will be required to design a home using passive solar applications. Three hours lecture each week. Fall, three credits.

SOLAR PROJECT ................................................................. TEN 6560
Prerequisite: TEN 6558 or TEN 6559. In this course on the design and construction of active and passive solar systems, students will work with professional equipment. The course will emphasize effective, practical solar designs and systems. Students will study in-field working active and passive solar applications; examine the solar system selection process; and weigh cost, design and materials in choosing the best system. Two hours of lecture and six hours of lab each week. Spring, four credits.

APPLICATION OF SOLAR ...................................................... TEN 6563
This course covers various types of solar system applications. Topics include photovoltaic; solar heating and cooling; solar process heat; solar collectors and concentrators; and other solar energy conversions. Students will study residential, commercial, agri-
cultural and industrial uses for solar energy; examine case studies of many existing solar and alternate energy systems, and explore the identification of effective solar applications. Class meets three hours a week. Three credits.

SOLAR INTEGRATION AND CONTROL ........................................ TEN 6564
Prerequisite: TEN 6541. Students will explore types of conventional heating and cooling devices that can be combined with solar and alternate energy applications; how solar systems can be used in lieu of standard energy products and methods; how to distribute the end product — heated water, cooled air and other mediums — where they are needed; overall system control; and advanced concepts on energy control and monitoring. Students will study how to develop energy system information and plan overall systems. Two hours of lecture and three hours of lab each week. Spring, three credits.

ENGINEERING

ENGINEERING GRAPHICS I .................................................. EGR 1243
Principles of graphics and design processes. Practical problems relating to interpretation of drawings; interrelation of points, lines and planes; intersections and developments; graphical solutions by charts and graphs; orthographic projection. Use of instruments and lettering. Emphasis on visualization. Class/lab meets six hours a week. Three credits.

ENGINEERING GRAPHICS II .................................................. EGR 2276
Study and application of detail and assembly drawings, dimensioning, auxiliary views, sectioning and developments. Emphasis on creative design processes and visualization. Class/lab meets six hours a week. Three credits.

TECHNICAL PHYSICS I ......................................................... EGR 7094
Prerequisite: MTH 5722. A study of selected topics in physics including motion, forces, energy, mechanical advantage, heat, friction, fluids and properties of matter. Two hours of lecture and three hours of lab each week. Three credits.
TECHNICAL PHYSICS II ............... EGR 9017
Prerequisite: EGR 7094. Continuation of Technical Physics I. Subjects include momentum, wave motion, sound, light, atomic structure, static electricity and magnetism. Two hours of lecture and three hours of lab each week. Three credits.

STATICS ............................ EGR 6082
Prerequisite: MTH 3268 or concurrent enrollment. Vectors, force systems, friction, centroids and moments of inertia. Class meets three hours a week. Three credits.

PROGRAMMING FOR ENGINEERING AND SCIENCE .................... EGR 7724
Prerequisite: MTH 3427 or equivalent. Use of the FORTRAN programming language in developing programming techniques for solving scientific and engineering problems on digital computers. Emphasis is on the vocabulary and grammar of FORTRAN. Class meets three hours a week. Minimum of three hours of laboratory a week by arrangement. Four credits.

DYNAMICS ............................ EGR 5517
Prerequisite: EGR 6082 and MTH 4313 or concurrent enrollment in MTH 4313. Unbalanced force systems and the resulting motion, work and energy, impulse, momentum and impact. Class meets three hours a week. Three credits.

MECHANICS OF MATERIALS ............ EGR 7389
Prerequisite: EGR 6082. Theory of simple stress and strains in elastic materials, torsion, beams and columns. Class meets three hours a week. Three credits.

MECHANISMS .......................... EGR 6198
Prerequisite: EGR 1243. Studies motion of machine parts and methods of transmission of motion by links, cams, gears and belts. Class meets six hours a week. Three credits.

PROCESSES AND MATERIALS OF MANUFACTURING .............. EGR 4661
Basic principles and theory of production processes for metal and plastics. Class meets three hours a week. Three credits.

BUILDING MATERIALS AND CONSTRUCTION ...................... EGR 7118
Study of principal materials used in buildings. Emphasis on properties and applications in building construction. Use of construction specifications, building codes, trade association publications and other standards. Class meets three hours a week. Spring, three credits.

PROJECT LABORATORY .................. EGR 4580
Prerequisite: EET 5290 and by permission of division director. Construction or design and construction of equipment agreed upon by instructor and student. Laboratory and shop by arrangement. One to four credits.

ENGINEERING LAND SURVEYING I .... EGR 3169
Prerequisite or corequisite: MTH 2594 or MTH 7091. Basic applications of plane surveying procedures which include measurement of horizontal distances, directions, angles, leveling, traversing, curves, stadia and coordinates. Topographical, property and construction surveying. Field operations using equipment such as auto levels, theodolites and EDM. Class meets six hours a week. Three credits.

ENGINEERING ORIENTATION .......... EGR 7651
Introduction to several engineering disciplines, presentations and opportunities for discussions with professional engineers and representatives of engineering faculty of regional universities. Includes field trips, current transfer requirements and scholarship information. Class meets one hour a week. One credit.

ENGLISH

ENGLISH AS A SECOND LANGUAGE ...... CEN 5576
Introduction to written communication for those whose native language is not English. Emphasis on grammar, sentence structure, organization, idiomatic usage, spelling and vocabulary necessary to clear written and spoken communication. Class meets three hours a week. Three credits.

FUNDAMENTALS OF ENGLISH ........... CEN 2651
Basics of standard edited (written) English with emphasis on grammar, usage and sentence structure leading to clear, correct composition. Class meets three hours a week. Three credits.

INTRODUCTION TO WRITING .......... CEN 1000
Beginning with a review of basic sentence skills, the course focuses on paragraph development, including subject selection, topic sentences, methods of development, transitional devices and conclusions. The last part of the course will focus on developing the multi-paragraph essay. Class meets three hours a week. Three credits.

COMPOSITION I ....................... CEN 7612
An introduction to writing focusing on invention, paragraph development and essay format. Guided practice in developing form and content of clear and interesting composition. Class meets three hours a week. Three credits.
COMPOSITION II .................. CEN 5732  
Prerequisite: CEN 7612. Course emphasizes organization and development of expository essays written in response to assigned readings. Related research projects. Class meets three hours a week. Three credits.

ADVANCED COMPOSITION .......... CEN 5577  
Prerequisite: CEN 5732. Practice in effective writing for students who wish to continue their study beyond the two semesters of Composition I and II. Focus on the writing of expository and argumentative essays, study and practice in the selection of subjects, organization, methods and style. Class meets three hours a week. Three credits.

TECHNICAL WRITING ............... CEN 5578  
Prerequisite: CEN 7612. Emphasizes various methods of written communication relevant to manufacturing and engineering, including short reports, letters and resumes. Class meets three hours a week. Three credits.

CREATIVE WRITING ............... CEN 5579  
Prerequisite: CEN 5732. Principles and practice in narrative writing, including the short story, novel and play. Emphasis on planning and plotting. Consideration given to poetry and non-fiction, depending on the interests of the students. Examination of recommended models. Final projects are selected by students. Manuscripts are submitted to professional editors for evaluation. Class meets three hours a week. Three credits.

CREATIVE WRITING WORKSHOP ..... CEN 5580  
Prerequisite: CEN 5579. Advanced practice in writing the short story, novel, essay, article, play and poetry for students with serious writing aspirations. All students are furnished with printed copies of manuscripts submitted and function as critics of one another's writing. Class meets three hours a week. Three credits.

INTRODUCTION TO FICTION ....... CEN 3898  
Prerequisite: CEN 5732. Introduction to fiction from different countries and eras, emphasizing fictional techniques and themes in selected novels and short stories. Students will read, discuss and write about the assigned fiction. Class meets three hours a week. Three credits.

POETRY AND DRAMA ............... CEN 5581  
Prerequisite: CEN 5732. Introduction to poetry and drama for insight and appreciation. Selected plays and poetry of all types and styles will be read. Related writing assignments. Class meets three hours a week. Three credits.

AMERICAN WRITERS .............. CEN 5582  
Prerequisite: CEN 5732. Readings of complete works of selected American writers with related writing projects. Course focuses on important works of the various writers and emphasizes the relationship between their lives and times and their art. Class meets three hours a week. Three credits.

WORLD MASTERPIECES ............ CEN 5583  
Prerequisite: CEN 5732. Readings of complete works of selected Western World writers who have influenced Western literature and civilization. Course focuses on important works of various writers and traces their influence on later writers. Includes writing projects. Class meets three hours a week. Three credits.

MASTERPIECES OF THE CINEMA .... CEN 5584  
Prerequisite: CEN 5732. Major American and foreign films are shown in class and discussed. Group presentations and written film critiques are required. Additional video and short-shorts are used for variety and interest. Related reading assignments. Class meets for three hours on one day each week. Three credits.

THE LITERATURE OF SCIENCE FICTION  
................................. CEN 5585  
Prerequisite: CEN 5732. The various themes and myths of major science fiction writers are presented. Group presentations, simulations and guest speakers are included. Major science fiction movies and short subjects are viewed. Related reading and writing assignments. Class meets three hours a week. Three credits.

CHILDREN'S LITERATURE ........ CEN 5586  
An exploration and analysis of what is best in children's literature both past and present. Emphasis on children's needs, criteria used in selecting books for children and the types of children's literature, and a study of the best authors and illustrators of children's books. Class meets three hours a week. Three credits.

ADOLESCENT LITERATURE .......... CEN 5587  
An exploration and analysis of the most representative books in adolescent literature. Emphasis on needs and interests of young adults (ages 10-14), criteria in selecting books for them, current issues in books for adolescents and various themes and styles of these selections. Class meets three hours a week. Three credits.
EQUINE STUDIES

STABLE MANAGEMENT .......... SES 1216
Survey of methods in caring for horses. Feeding, grooming, barn sanitation and upkeep will be emphasized. Two hours of classroom instruction and two hours of practical exercises in the stable a week. Three credits.

BASIC HORSE TRAINING .......... SES 2352
This course covers halter breaking, leading, handling, bitting, lousing, saddling and bridling, methods of restraint, and actual riding of young horses. Class meets four hours a week. Two credits.

ADVANCED HORSE TRAINING .......... SES 3784
Prerequisite: SES 2352. A continuation of Basic Horse Training with emphasis on systems of training horses for specialized events. Areas to be covered are English and Western Pleasure, Hunters, first and second level dressage, Working Cowhorse and speed event. Class meets four hours a week. Two credits.

EQUINE ANATOMY AND PHYSIOLOGY .......... SES 2335
A study of the structure and development of the circulatory, nervous, skeletal, muscular, digestive and respiratory systems of equines. Class meets four hours a week. Four credits.

BEGINNING HUNT SEAT EQUITATION SES 1880
An introduction to Hunt Seat equitation. Position of rider, control of horse and basic movements will be stressed on a beginning to intermediate level. Hard hats and boots are required. Four hours of riding a week. Two credits.

INTERMEDIATE HUNT SEAT EQUITATION .......... SES 4140
A continuation of Beginning Hunt Seat Equitation with emphasis on development of intermediate skill level in riding and showing. Class meets four hours a week. Two credits.

ADVANCED HUNT SEAT EQUITATION ....... SES 3762
A continuation of Intermediate Hunt Seat Equitation with emphasis on development of advanced skill level in riding and showing. Class meets four hours a week. Two credits.

WESTERN EQUITATION .......... SES 1395
An introduction to Western equitation. Position of the rider, control of horse and basic movements will be stressed on a beginning to intermediate level. Four hours of riding a week. Two credits.

INTERMEDIATE WESTERN EQUITATION .......... SES 4139
Prerequisite: SES 1395. A continuation of Western Equitation with emphasis on development of intermediate skill level in riding and showing. Class meets four hours a week. Two credits.

ADVANCED WESTERN EQUITATION .......... SES 2430
Prerequisite: SES 4139. A continuation of Western Equitation with emphasis on development of advanced skill level in riding and showing. Four hours of riding a week in a sixteen week term or eight hours a week in an eight week term. Two credits.

EQUINE JUDGING .......... SES 1308
Equine selection, class placings and evaluation techniques are primary topics covered. Class meets four hours a week. Two credits.

EQUINE NUTRITION .......... SES 1350
A study of the digestive system, classes of feeds, feeding requirements, composition of feeds, systems of feeding, commercial feeds and supplements, and vitamin, mineral and water requirements of the horse. Class meets four hours a week. Four credits.

TECHNIQUES OF RIDING INSTRUCTION I .......... SES 1184
Prerequisite: SES 1880 or SES 1395. Designed for students who intend to specialize in riding instruction. Practical demonstration of teaching methods, skill development and oral presentations. Class meets four hours a week. Three credits.
TECHNIQUES OF RIDING INSTRUCTION II

Prerequisite: SES 1184. Planning camp programs and public lessons with emphasis on safety as a primary factor. Rider problems and maintenance of the school horse are taken into special consideration along with practice in planning and teaching elementary and intermediate level riding. Class meets four hours a week. Three credits.

EQUINE SHOWMANSHIP

Prerequisite: SES 1880 or SES 1395. Showing rules and etiquette and practical knowledge of horse shows. Proper turn-out of horse and rider is emphasized. Class meets four hours a week. Two credits.

INTERMEDIATE DRESSAGE

Prerequisite: SES 4141. A continuation of basic dressage with emphasis on calmness and obedience. Class meets four hours a week. Two credits.

ADVANCED EQUITATION PROJECT

Student is given the opportunity to develop an individual project under the direct supervision of Equine Studies instructors. Equitation projects are intended to develop skills not fostered by the standard course offerings. Projects must have clearly stated performance objectives and be approved by the program coordinator. Class meets four hours a week. Two credits.

FASHION MERCHANDISING

FASHION FUNDAMENTALS I

The total concept of fashion—what makes it, changes it and sells it. Covers the fashion industry from the designer to the manufacturer to the distributor. Concludes with consumer and merchandising trends within the industry. Class meets three hours a week. Fall, three credits.

FASHION FUNDAMENTALS II

Prerequisite: BFM 7013. Technical aspects of merchandising, personnel policies, principles of management, role of the buyer, buying principles and merchandising mathematics. Class meets three hours a week. Fall, three credits.

FASHION IN SOCIETY

A study of the interrelationship of the psychological, economic and sociological aspects of clothing. Relates wardrobe management and artistic expression to personal clothing choices and the cultural interpretation of clothing symbolism within various cultures. Class meets three hours a week. Three credits.

FASHION PROMOTION

Planning and implementing activities to influence the sale of merchandise, services or ideas through publicity, special events, fashion shows, personal selling, advertising and display. Students will do the planning necessary for a successful fashion show such as choosing themes, merchandise, location, music and commentary. Class meets three hours a week. Spring, three credits.

FASHION DISPLAY

Practical exercises in the visual merchandising of fashion products. Creating effective interior and window displays using appropriate materials, colors, lighting and signs. Class meets three hours a week. Fall, three credits.
TEXTILES .. BFM 1195
Natural and synthetic textile fibers, weaves, knits, dyeing and printing methods. Emphasis on selling techniques, care and use of textiles. Class meets three hours a week. Three credits.

MERCHANDISE EVALUATION .. BFM 3503
Evaluation of textile and nontextile products, ranging from lingerie to handbags, crystal to china. Student will emphasize a chosen classification by preparing product manual and conducting a simulated departmental meeting to train staff in selling that merchandise. Class meets three hours a week. Spring, three credits.

FASHION SEMINAR: HUMAN RELATIONS .. BFM 3863
Prerequisite: Admission to the Fashion Merchandising Program. Work experience in an approved training situation under instructional supervision. The study of how people can work effectively in groups to satisfy both organizational goals and personal needs. From both the managerial and worker's point of view good human relations are necessary if people are to achieve economic, social and psychological satisfaction from the work they do. Class meets two hours a week with a minimum of fifteen hours a week on-the-job training by arrangement. Fall, two or three credits.

FASHION SEMINAR: SUPERVISORY DEVELOPMENT .. BFM 3865
Prerequisite: Admission to the Fashion Merchandising Program. Work experience in an approved training situation under instructional supervision. Designed to develop competency in modern techniques of effective supervisory practices in business. Getting ideas across, obtaining teamwork, determining goals, assessing promotability, techniques of getting results through group effort and key problems in supervision. A minimum of 15 hours on-the-job training a week by arrangement. Class meets two hours a week. Spring, two or three credits.

FASHION SEMINAR: CAREER OPTIONS .. BFM 3864
Prerequisite: Admission to the Fashion Merchandising Program. Work experience in an approved training situation under instructional supervision. Emphasis on developing career goals by exploring many career options in fashion. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Fall, two or three credits.

FASHION SEMINAR: MARKET RESEARCH .. BFM 3862
Prerequisite: Admission to the Fashion Merchandising Program. Work experience in an approved training situation under instructional supervision. Emphasis on marketing research and problem-solving techniques. Simple statistical measurements, their use and application to specific business problems. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Spring, two or three credits.

HISTORY OF DRESS .. BFM 2568
Historical evolution of dress in the Western World from Egypt to today. The fashion cycle and the elements that affect it: economic, political, social and technological advancements. Class meets three hours a week. Spring, three credits.

FASHION ILLUSTRATION I .. BFM 5294
Application of basic sketching techniques to the human figure and clothing designs for the development of newspaper and magazine advertising. Class meets three hours a week. Three credits.

FASHION ILLUSTRATION II .. BFM 1926
Prerequisite: BFM 5294. An in-depth study of fashion illustration as a visual selling technique. Strong emphasis on developing an individual style resulting in an attractive portfolio geared to the career objectives of the individual student. Class meets three hours a week. Spring, three credits.

FIRE PROTECTION AND PUBLIC SAFETY

FUNDAMENTALS OF FIRE PREVENTION .. EFS 1745
Organization and function of fire prevention; inspections, surveying and mapping procedures; recognition of fire and life hazards; engineering a solution of a fire hazard; enforcing the solution of a fire hazard; and public relations as affected by fire prevention. Class meets three hours a week. Three credits.

BUILDING CONSTRUCTION FOR FIRE PROTECTION .. EFS 3744
Fundamentals of building construction as they relate to fire protection. Classification by occupancy and types of construction with emphasis on fire protection features including building equipment, facilities, fire resistive materials and high-rise considerations. Class meets three hours a week. Three credits.
FIRE PHOTOGRAPHY ............... EFS 4089
An introduction to basic photography as it relates to the fire service. This course deals with the types of camera equipment used in the fire service. The course demonstrates how photography can be used in relation to the fire department goals and objectives. Class meets three hours a week. Three credits.

FIRE INVESTIGATION ............. EFS 1529
The emphasis in this course is on the skills needed to determine the cause of a fire. This course does not deal with arson investigation, except as it relates to determining the cause. Class meets three hours a week. Three credits.

ARSON INVESTIGATION ............ EFS 1527
Prerequisites: EFS 4089 and EFS 1529. Arson investigation techniques and procedures will be covered in this course. Topics include evidence preservation, interviewing and interrogation and courtroom procedures. Class meets three hours a week. Three credits.

LIFE SAFETY CODES ............... EFS 1528
Find out how to read and interpret codes and ordinances in this course. Emphasis will be on the Life Safety Codes which are used extensively in fire prevention. Class meets three hours a week. Three credits.

EXTINGUISHING, DETECTION AND ALARM SYSTEMS ............... EFS 1525
This course introduces the types of extinguishing, detection and alarm systems and how they operate. Class meets three hours a week. Three credits.

FIRE SCIENCE LAW ............... EFS 1526
The fire department—like any other business—is affected by the law. This course explores the law as it pertains to fire service. Topics include tort law and business law. Class meets three hours a week. Three credits.

EMERGENCY MANAGEMENT OPERATIONS ............... EFS 1524
This course covers planning for disaster control, disaster management, communications for disaster management and types of disasters. Class meets three hours a week. Three credits.

INTRODUCTION TO FIRE SCIENCE .... EFS 1743
An introduction to the fire service and fire protection; career opportunities in fire protection and related fields; history of fire protection; fire loss analysis; public, quasi-public and private fire protection services; specific fire protection functions; fire chemistry and physics. Class meets three hours a week. Three credits.

FIRE HYDRAULICS ............... EFS 1748
Review of applied mathematics, hydraulics laws as applied to the fire service and application of formulas and mental calculation to hydraulics and water supply problems. Class meets three hours a week. Three credits.

FIRE HYDRAULICS LABORATORY .......... EFS 2577
Prerequisite: EFS 1748 or concurrent enrollment. Experimentation and application of hydraulic laws, formulas and mental calculation of hydraulic and water supply problems. National and state certification standards related to water flow and water supply and motor pump operation. Class meets three hours a week. One credit.

FIRE APPARATUS AND EQUIPMENT .... EFS 3757
Fire apparatus design, specifications and performance capabilities; effective utilization of apparatus in fire service emergencies. Class meets three hours a week. Three credits.

FIRE TACTICS AND STRATEGY ........ EFS 5756
Principles of fire control through the utilization of manpower, equipment and extinguishing agents on the fireground. Class meets three hours a week. Three credits.

RESCUE PRACTICES ............... EFS 6755
Rescue problems and techniques, emergency rescue equipment, toxic gases, chemicals and diseases, radiation hazards, care of victims, including emergency childbirth, respiration and resuscitation, extrication and other emergency conditions. Class meets three hours a week. Three credits.

RESCUE PRACTICES LABORATORY ........ EFS 4481
Prerequisite: EFS 6755 or concurrent enrollment. Practical application of rescue theories and techniques. Includes auto extrication, repelling and CPR. Class meets three hours a week. One credit.

SPRINKLER AND STANDPIPE SYSTEMS .... EFS 1523
This course concentrates on sprinkler and standpipe systems used in fire protection. Emphasis is on the types of sprinkler and standpipe systems and how to operate them. Class meets three hours a week. Three credits.
HAZARDOUS MATERIALS ............... EFS 1531
Prerequisite: NPS 6634. Here is information on how to recognize hazardous materials and how to manage incidents involving hazardous materials. Topics include explosives, radioactive material, flammables and compressed gases as well as transporting hazardous materials. Class meets three hours a week. Three credits.

ESSENTIALS OF FIRE FIGHTING .......... EFS 7981
This course offers instruction in the skills required for basic firefighting. Focus is on the theory of fire protection and on identifying and using equipment safely. Three hours of lab and three hours of lecture each week. Four credits.

FIRE VEHICLE MAINTENANCE FOR OPERATORS AND MECHANICS ............... EFS 4256
A survey course in the fundamentals of all vehicle structure. Basic construction of the vehicles, including the main powering systems (fire pumps excluded), and techniques of maintenance. Class meets one hour a week. One credit.

FIRE SERVICE COMMUNICATIONS SYSTEMS ...
........................................... EFS 4245
An introduction to the basic fire alarm operator's area of specialized knowledge, duties and performance objectives. A general course on the functioning of the alarm office, the laws relating to the alarm office, and communication procedures. The course is for operators and potential operators. Class meets three hours a week for five weeks. One credit.

FIRE SERVICE RECORDS AND REPORTS ....
............................................. EFS 4250
Course designed for all members of the fire service in the use of typical records and report systems. Involves knowledge and understanding of fire department records systems, principles of report writing, applications in the area of prefire survey, postfire reporting, research and planning. Class meets one hour a week. One credit.

MUNICIPAL FIRE ADMINISTRATION .. EFS 1532
This course covers techniques and methods used in managing a fire department. Topics include the budget process, fire department administrative functions and types of political systems which affect a fire department. Class meets three hours a week. Three credits.

FOREIGN LANGUAGE

ELEMENTARY GERMAN I ............... CFL 3196
Presentation of the sounds, vocabulary and basic structural patterns of elementary German with development of listening comprehension, speaking, reading and writing skills. Cultural material is integrated into all German courses. Class meets five hours a week. One half-hour lab session a week also required. Five credits.

ELEMENTARY GERMAN II ............... CFL 6207
Prerequisite: CFL 3196 or one year of high school German. Continuation of Elementary German I, completing the presentation of the sounds, vocabulary and basic structural patterns of beginning German with further practice and development of listening comprehension, speaking, reading and writing skills. Class meets five hours a week. One half-hour lab session a week also required. Five credits.

INTERMEDIATE GERMAN ............... CFL 3401
Prerequisite: CFL 6207 or two years of high school German. Vocabulary building and grammar review primarily through extensive reading of German texts with additional practice in listening, speaking and writing. Class meets three hours a week. One half-hour lab session a week also required. Three credits.

ADVANCED GERMAN ............... CFL 5199
Prerequisite: CFL 3401 or three years of high school German. Further expands the mastery of German vocabulary and structure through extensive reading of more advanced texts with some additional practice in listening, speaking and writing. Class meets three hours a week. One half-hour lab session a week also required. Three credits.

ELEMENTARY FRENCH I ............... CFL 4570
Basic course in the French language includes vocabulary building, grammar study, conversation and introduction to the French culture and civilization. Emphasis on the spoken language. Class meets five hours a week. One half-hour lab session a week also required. Five credits.

ELEMENTARY FRENCH II ............... CFL 2293
Prerequisite: CFL 4570 or one year of high school French. Continuation of Elementary French I with graded reading selections to be used as the basis for conversation. One half-hour lab session a week also required. Class meets five hours a week. Five credits.
CONVERSATIONAL FRENCH .......... CFL 2447
Prerequisite: CFL 2293 or two years of high school French. An intermediate course to build spontaneous speaking ability. Topics revolving around everyday life situations and current events are discussed in class. Class meets two hours a week. Two credits.

INTERMEDIATE FRENCH .......... CFL 1442
Prerequisite: CFL 2293 or two years of high school French. Intermediate reading course to build vocabulary, comprehension and increase the speaking ability acquired in Elementary French I and II. Emphasis placed on conversation and composition in French. A grammar review of level I and II also is integrated into the course. Class meets three hours a week. One half-hour lab session a week also required. Three credits.

ADVANCED FRENCH .............. CFL 5574
Prerequisite: CFL 1442 or three years of high school French. Continuation of Intermediate French. Advanced reading, with study of newspaper articles taken from Match, Elle, L'Express. Complete grammar review. Conversation and composition in French. Class meets three hours a week. One half-hour lab session a week also required. Three credits.

ELEMENTARY SPANISH I ............. CFL 3285
Basic course in Spanish language, including grammar study, conversation, composition and an introduction to the culture of Spanish-speaking countries. Class meets five hours a week. One half-hour lab session a week also required. Five credits.

ELEMENTARY SPANISH II .......... CFL 1239
Prerequisite: CFL 3285 or one year of high school Spanish. Continuation of Elementary Spanish I. Graded reading selections added as basis for conversation and composition in the discussion periods. Class meets five hours a week. One half-hour lab session a week also required. Five credits.

INTERMEDIATE SPANISH .......... CFL 7221
Prerequisite: CFL 1239 or two years of high school Spanish. A reading course to build vocabulary, further understanding of Hispanic culture and speaking fluency. Composition and conversation in Spanish. Grammar review. Class meets three hours a week. One half-hour lab session a week also required. Three credits.

ADVANCED SPANISH .......... CFL 6626
Prerequisite: CFL 7221 or three years of high school Spanish. Continuation of Intermediate Spanish with extensive study of Hispanic literature. Advanced reading. Grammar review continues. Class meets three hours a week. One half-hour lab session a week also required. Three credits.

BEGINNING CHINESE .......... CFL 2646

BEGINNING JAPANESE .......... CFL 5783
Emphasis on the spoken language, its syntax and grammar. Short introduction to the Japanese syllabary (hiragana) and some ideographs (Kanji). Includes through language drills, an introduction to Japanese culture. A self-instructional program with tapes, texts and tutors. Class meets by arrangement. Five credits.

HEARING IMPAIRED

BASIC MANUAL COMMUNICATIONS .......... AHP 7029
Basic American Sign Language (ASL) used to communicate with deaf adults is taught. Subject material based on developing eye strength and body language skills for basic ASL communication. Class meets three hours a week. Three credits.

LAB FOR BASIC MANUAL COMMUNICATIONS .......... AHP 1818
A laboratory to aid the student with Basic Manual Communications. Provides opportunity to practice the signs taught in the basic course with both deaf and hearing students. Class meets by arrangement. One credit.

INTERMEDIATE MANUAL COMMUNICATIONS .......... AHP 4488
Prerequisite: AHP 7029. A study in American sign language and a continuation of AHP 7029. A continuation of new signs with an emphasis on signed idioms, body language and expressions. Class meets three hours a week. Three credits.
BASIC ENGLISH FOR HEARING IMPAIRED
PERSONS (HIP) ................. AHP 6083
Basic skills in written communications, including
sentence structure, the system of language, its
characteristics and functions. Emphasis on vocab-
ulary and the effect of words. Class meets five hours a
week. Three credits.

BASIC ENGLISH FOR HIP II ....... AHP 6084
Prerequisite: AHP 6083. Continuation of AHP 6083.
Emphasis on grammar, organization, idiomatic usage,
spelling and vocabulary, leading to clear written com-
position. Class meets five hours a week. Three credits.

BASIC ENGLISH FOR HIP III ....... AHP 6085
Prerequisite: AHP 6084. Practice in expression through
written compositions. Emphasis on organization,
clarity of expression and style. Class meets five hours a
week. Three credits.

ADJUSTMENTS INTO ADULT LIVING (HIP) ...... AHP 3024
Teaches daily living skills as an aid in the mainstream-
ing process of the college. The study of college survival
skills, including study habits, money management,
employer-employee relationships, introduction to col-
lege facilities and support services, career exploration
and clarification of personal values. Class meets three
hours a week. Three credits.

SPEECH THERAPY ................. AHP 6815
The individualized speech therapy program is des-
dined to meet the student's needs. Communication
disorders related to hearing loss, disfluency,
resonance, voice and articulation problems are
treated. By arrangement. Three credits.

FUNDAMENTALS OF MATH (HIP) ....... MTH 2122
Review of fractions, decimals and whole numbers.
Numeration. Practical applications of percent, dimen-
sions and linear equations. Class meets three hours a
week. Three credits.

DEVELOPMENTAL READING FOR THE
HEARING IMPAIRED ............... CLC 4609
These small group sessions are designed to help the
hearing impaired student develop reading skills. The
course will emphasize reading comprehension and
vocabulary development through the use of selected
readings, current affairs readings, discussion and
vocabulary building. Class meets three hours a week.
Two credits.

DEVELOPMENTAL READING II ....... CLC 4626
Group sessions to help continue the development of
reading skills and vocabulary through the use of
selected readings, Line 21 decoder and discussion.

HOME ECONOMICS

HOUSING AND EQUIPMENT ......... BLH 2858
Emphasis on consumerism, home safety, maintenance
and energy conservation as applied to the use of
household products, appliances and equipment. Large
and small appliances for kitchen, laundry, clean-up
and utility areas will be studied. New trends and ideas
in housing materials and equipment will be observed
by field trips and demonstrations. Class meets three
hours a week. Three credits.

HOME MANAGEMENT ............... BLH 7004
Emphasis will be on a systems approach to manage-
ment particularly as it relates to the dual-career fam-
ily. Goal setting, planning and decision-making skills
will be applied to individuals and families. Techniques
will be developed concerning managing time, energy
and money which will promote efficiency in home
management tasks. Class meets three hours a week.
Three credits.

NUTRITION AND MEAL PLANNING .... BLH 2859
Study of food and nutrition as it applies to personal
and family living. Emphasis on the basic food groups
and their use in meal planning as well as the functions
and sources of each nutrient. Students will evaluate
their diets. Consideration will be given to current
trends in eating patterns, diet and exercise, fad diets
and life cycle nutritional needs. Class meets three
hours a week. Three credits.

FAMILY COMMUNICATIONS ........ BLH 7003
The interpersonal relationships of family members
and factors contributing to effective communications.
Strategies are developed for coping with stressful situa-
tions. The adult and family life cycle will be explored
as a means of analyzing change. Current issues facing
the family such as violence, drugs and divorce will be
surveyed. Class meets three hours a week. Three
credits.
HOSPITALITY MANAGEMENT

HOSPITALITY MANAGEMENT FUNDAMENTALS .......... BHM 6037
General overview of organization and departmental functions of food service and public lodging industries; positions of the industries in the American economic system; functions and limitations of the types of establishments. Class meets three hours a week. Three credits.

BASIC FOOD PREPARATION ............ BHM 7028
Prerequisite: Admission to the Hospitality Management Program. Basic quantity food preparation; theory of grilling, frying, broiling and sautéing with a thorough understanding of the use and maintenance of equipment and duties performed at each station. Special emphasis on meat cuts, basic salad dressings and sauces. Class meets three hours a week. Three credits.

SUPERVISORY MANAGEMENT ....... BHM 4489
Supervision and motivation of employees in the hospitality industry with emphasis on human relations, delegation, training, evaluation and communications. Class meets three hours a week. Three credits.

FOOD MANAGEMENT ................. BHM 3006
Prerequisite: BHM 7028 and admission to the Hospitality Management Program. Menu planning and meal service for all phases of food service and various occasions. Buffet service, French service, American service and waiter/waitress training. Actual operation of an on-campus dining room including profit and loss statements, sales promotion and competitiveness studies. Class meets five hours a week. Three credits.

HOTEL-MOTEL OPERATIONS ............ BHM 4203
Coordinated management, administration and control specific to public lodging establishments with emphasis on management functions. Front office procedures and techniques in the rental of rooms, reception of guests, handling of reservations, guest requests and complaints, convention and meeting procedures and requirements, guest records, mail and other routine procedures are studied. Class meets three hours a week. Three credits.

DESIGN TECHNIQUES ............... BHM 3903
Prerequisite: BHM 7028 and BHM 1287. A course in which food service design is studied in detail in relation to the menu, the location and the type of clientele expected. Layout, design and equipment specification will be included. Class meets three hours a week. Three credits.

FOOD SPECIALTIES—GARDE-MANGER .......... BHM 2166
Prerequisite: BHM 7028. A study of basic food preparation for the hospitality industry. Course will include soups, stocks, sauces, garde-manger section, chaud-froid pieces, buffets. Class meets three hours a week. Three credits.

ADVANCED FOOD PREPARATION ........ BHM 7803
Prerequisite: BHM 7028 and 3006. Allows students with fundamental food skills to increase their knowledge of the culinary arts by implementing advanced skills required in the preparation of international cuisine. Class meets four hours a week. Four credits.

ADVANCED HOSPITALITY MANAGEMENT .......... BHM 1388
Prerequisites: BHM 4489, 4592, 6037. Emphasis on application of skills in menu planning, food service, supervision, front office procedures, design techniques and beverage control enabling students to assume managerial responsibility in the hospitality field. Class meets three hours a week. Three credits.

HOSPITALITY LAW ................. BHM 2177
Prerequisite: BHM 6037. Designed to familiarize the student with major legal problems which occur in the hotel-restaurant industry. Class meets three hours a week. Two credits.

FUNDAMENTALS OF BAKING ............ BHM 2163
Lecture and participation in basic baking procedures. Ingredients, measurements, mixing procedures, equipment use, proofing procedures, baking and final presentation of the product will be covered. Class meets three hours a week. Three credits.
SEMINAR IN HOSPITALITY MANAGEMENT:  
INTERNSHIP .......................... BHM 2640  
Prerequisite: Admission to the Hospitality Management Program. Supervised work experience within an approved area in the hospitality field. Class meets by arrangement. Summer, three credits.

SEMINAR IN BEVERAGE CONTROL .... BHM 4594  
A course in beverage control for all types of operations. A study of the history of wines, their uses and storage procedures. An in-depth study of spirits, internal control systems as well as local and state alcoholic beverage control laws. Class meets two hours a week. Two or three credits.

SEMINAR IN HOSPITALITY MANAGEMENT:  
PURCHASING .......................... BHM 4593  
Prerequisite: Admission to the Hospitality Management Program. Supervised work experience within an approved area in the hospitality field. Purchasing techniques and specification writing for items used in the hotel-motel food service field. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Two or three credits.

SEMINAR IN HOSPITALITY MANAGEMENT:  
ACCOUNTING .......................... BHM 4592  
Prerequisite: Admission to the Hospitality Management Program. Supervised work experience within an approved area in the hospitality field. Principles and techniques of operating front offices, posting machines and front desks. Preparation of actual operation statements for food service operators, inventory preparation and control systems. Class meets two hours a week. Two or three credits.

SEMINAR IN MENU PLANNING AND SALES PROMOTION .......................... BHM 4591  
Concepts of planning menus for every type of service and facility. Menu layout, selection and development will be combined with operational impact projections. The effects of various price structures will be studied. The theory of menu design prior to construction will be developed. A minimum of 15 hours on-the-job training a week by arrangement. Class meets two hours a week. Two or three credits.

CULINARY ARTS PRACTICUM I .... BHM 2913  
Prerequisite: Acceptance into the American Culinary Federation Chef Apprenticeship Training Program. On-the-job apprentice training under the supervision of a qualified chef. An opportunity to learn food preparation and presentation techniques and to apply the knowledge and skills acquired on the job and in theory-related courses. The assignments in the operation will provide experience and training in all aspects of food service operation. The practicum will be conducted by a staff member of Johnson County Community College and supervised by an appointed member of the Greater Kansas City Chefs Association. Two credits.

CULINARY ARTS PRACTICUM II .... BHM 4941  
Prerequisite: BHM 2913. A continuation of Culinary Arts Practicum I. Two credits.

CULINARY ARTS PRACTICUM III .... BHM 5942  
Prerequisite: BHM 4941. A continuation of Culinary Arts Practicum II. Two credits.

CULINARY ARTS PRACTICUM IV .... BHM 7943  
Prerequisite: BHM 5942. A continuation of Culinary Arts Practicum III. Two credits.

CULINARY ARTS PRACTICUM V .... BHM 6944  
Prerequisite: BHM 7943. A continuation of Culinary Arts Practicum IV. Two credits.

CULINARY ARTS PRACTICUM VI .... BHM 9945  
Prerequisite: BHM 6944. A continuation of Culinary Arts Practicum V. Two credits.

HUMANITIES

INTRO. TO THE HUMANITIES ......... HUM 6120  
This interdisciplinary study of the arts begins with the study of artistic form and the technical elements of several art forms including painting, music and drama. The expression of major themes in human existence through these art forms also is examined. Class meets three hours a week. Three credits.

COMPARATIVE CULTURES .......... HUM 5431  
Interdisciplinary study of cultures. The course emphasizes development of the humanities in selected cultures as a background to the arts in contemporary society. Two European cultures and one non-European culture are studied. The concept of culture and the role of the humanities in culture in general is investigated. Class meets three hours a week. Three credits.

INTRODUCTION TO PHILOSOPHY .... HUM 7520  
Examines basic issues of philosophy, such as the nature of being, methods of acquiring knowledge and the foundations of moral, religious and political beliefs. Emphasis is placed on the value philosophical inquiry has for contemporary living. Class meets three hours a week. Three credits.

PHILOSOPHY OF CURRENT CIVILIZATION .... HUM 2532  
A systematic and critical analysis of selected major current issues in American civilization and the philosophies presupposed by these issues. Analysis through relevant philosophical articles and news media. Class meets three hours a week. Three credits.
PHILOSOPHY OF RELIGION .......... HUM 2541
Rather than study the forms and documents of any specific religion, this course attempts to deal with the following 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. Class meets three hours a week. Three credits.

HISTORY OF ANCIENT PHILOSOPHY HUM 5966
This course examines the amazing richness of ancient Greek and Roman thought, ranging from speculation about the universe and theories of natural selection and atomism to carefully thought out treatises on the nature of humans and society. Selections from ancient texts will be used with commentary where appropriate. Class meets three hours a week. Three credits.

LOGIC ...................... HUM 6392
Emphasis on improved ability to reason, clear thinking for effective expression, deductive and inductive arguments, and informal fallacies. Class meets three hours a week. Three credits.

ETHICS .................... HUM 3080
Study of the great problems of ethics, including free will and determinism, relativism and absolutism, the relationship between individuals and between individuals and society. Explanation of traditional positions enabling the student to better understand contemporary social and moral issues. Class meets three hours a week. Three credits.

ETHICAL ISSUES IN AMERICAN HEALTH CARE ................. HUM 4000
This course focuses on ethical concerns and dilemmas which arise in health care settings. Attention is given to frameworks for analyzing ethical dilemmas and the value implications underlying models of patient treatment. Issues concerning patients’ rights, life and death, scarce resources and cost are considered from varying ethical frameworks. Professional roles in health care and alternate forms of health care are also considered. Class meets one hour a week. One credit.

INTERIOR PRODUCTS .................. BIM 2561
Comprehensive study of materials used for interiors, their characteristics, application and availability. This product information will offer competencies for employment in the interior products industry and practical home use. Areas covered will include floor, wall and window coverings, and furniture. New trends and ideas in housing will be observed through field trips and demonstrations. Class meets three hours a week. Three credits.

SPACE PLANNING .................. BIM 4035
A series of practical problems designed to develop a sense of utilization of interior space from a functional and psychological point of view. Interpretation of architectural floor plans, symbols and use of templates. Perspectives and lettering will be included. Three credits.

HISTORY OF INTERIOR DESIGN .......... BIM 3032
A chronological study of furniture and interiors with specific information in the areas of materials, construction, motifs, colors and contributing influences. Emphasis on current interpretations of historical styles within today’s home. Class meets three hours a week. Three credits.

INTERIOR MERCHANDISING SEMINAR: PRACTICES AND PROCEDURES .......... BIM 6602
Work experience in an approved training situation under instructional supervision. Study of various types of interior product business formations, contracts, papers and procedures necessary for effective business management. Discussion of job opportunities and business ethics. Class meets two hours a week with a minimum of fifteen hours a week on-the-job training by arrangement. Two or three credits.

INTERIOR MERCHANDISING SEMINAR: BUDGET AND ESTIMATING .......... BIM 5021
Work experience in an approved training situation under instructional supervision. Projects done in residential and commercial jobs that will require specification writing and cost control. Emphasis on accurate measurement of materials and figuring actual costs. Class meets two hours a week with a minimum of fifteen hours a week on-the-job training. Two or three credits.
INTERPRETER TRAINING

ELEMENTARY AMERICAN SIGN LANGUAGE (ASL) .................................. AIT 4687
Extensive exposure to ASL allowing the development of beginning communication skills used with deaf persons. Emphasis on comprehension skills, as well as linguistic features of the language taught in context. Five hours of lecture, six hours of lab a week. Eight credits.

INTERMEDIATE AMERICAN SIGN LANGUAGE (ASL) .............................. AIT 4688
Prerequisite: AIT 4687. Intensive exposure to ASL allowing the continued development of intermediate level communication skills used with deaf persons. Emphasis on comprehension and production skills. Linguistic and cultural features will be presented in the context of language learning experiences. Five hours of lecture, four hours of lab a week. Seven credits.

ADVANCED AMERICAN SIGN LANGUAGE I .............................................. AIT 4689
Prerequisite: AIT 4688. Continued exposure to ASL allowing greater development of ASL communication skills. Emphasis on comprehension and production skills. Linguistic and cultural features will be presented in the context of language learning experiences. Three hours of lecture, four hours of lab a week. Five credits.

ADVANCED AMERICAN SIGN LANGUAGE II .......................................... AIT 4694
Prerequisite: AIT 4689. Continued exposure to ASL allowing greater development of ASL communication skills. Emphasis on comprehension and production skills. Linguistic and cultural features will be presented in the context of language learning experiences. Three hours of lecture a week. Three credits.

ADVANCED AMERICAN SIGN LANGUAGE III ........................................ AIT 4699
Prerequisite: AIT 4694. Continued exposure to ASL allowing greater development of ASL communication skills. Emphasis on comprehension and production skills. Linguistic and cultural features will be presented in the context of language learning experiences. One hour of lecture a week. One credit.

THEORY OF AMERICAN SIGN LANGUAGE ............................................. AIT 4698
Prerequisite: AIT 4688. A course to examine the structural and grammatical principles of ASL. An introductory study of the linguistic and semiotic problems of equivalency in English and American Sign Language. By incorporating linguistic information into the text analysis process, quality interpretation of English and ASL should result. Three hours of lecture a week. Three credits.

FINGERSPELLING I ................................................................. AIT 4690
This course will develop beginning expressive and receptive fingerspelling skills based on word and phrase recognition principles. Two hours of lecture, three hours of lab a week. Three credits.

FINGERSPELLING II ............................................................. AIT 4695
Prerequisite: AIT 4690. This course will continue the development of expressive and receptive fingerspelling skills based on word and phrase recognition principles. One hour of lecture and one hour of lab a week. One credit.

SIGN SYSTEMS AND SPECIALIZED SIGN VOCABULARY ............................ AIT 4696
Prerequisite: AIT 4689. An introduction to various sign systems such as Manually Coded English and Pigeon Sign English. English and sign vocabulary development for specialized interpreter settings: medical, legal and educational. Three hours of lecture and one hour of lab a week. Three credits.

NON-VERBAL COMMUNICATION AS A SIGN LANGUAGE BASE ............... AIT 4686
Sequenced series of readiness activities designed to help the student develop skills in communicating without words, utilizing the vital elements of expressive communication (facial expression, body language, pantomime and gesture), and the vital elements of receptive communication (face reading, body reading and eye training). Three hours of lecture a week. Three credits.

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JOURNALISM

MASS MEDIA AND SOCIETY ............... CJO 4161
Survey designed to emphasize the content, structure, persuasive influence, responsibilities and problems of mass communication. The focus will be on television, radio, newspapers, magazines, public relations and advertising. Class meets three hours a week. Three credits.

NEWS REPORTING I ..................... CJO 3901
Prerequisite: Basic typing skills or concurrent enrollment in BSC 1263. Basic news writing and news style principles emphasized. Interviewing techniques developed. Practical application gained as students write stories for the campus newspaper. Class meets three hours a week. Three credits.

NEWS REPORTING II ................... CJO 3902
Prerequisite: Beginning Typing or equivalent and CJO 3901. An evaluation of how various news is gathered, written and published. Specialized reporting techniques are studied. Practical experience gained as students write stories for the campus newspaper. Class meets three hours a week. Three credits.

FUNDAMENTALS OF ADVERTISING ...... CJO 2136
The role of advertising in today's business world. A study of various forms of advertising and the media involved. Class meets three hours a week. Three credits.

ADVERTISING COPYWRITING .......... CJO 7139
Principles of advertising copywriting with practice in developing copy for a variety of products. Each class member prepares an advertising campaign. Class meets three hours a week. Three credits.

JOURNALISM FIELD STUDY I ........ CJO 7464
Prerequisite: By permission of division director. Work experience at an approved training center under staff supervision. Emphasis is placed on the application of writing techniques needed to produce news and/or advertising copy. Students receive a minimum of 15 hours of on-the-job training a week by arrangement. Class meets two hours a week. Three credits.

JOURNALISM FIELD STUDY II ........ CJO 3251
Prerequisite: By permission of division director. Work experience at an approved training center under staff supervision. The student is expected to develop copy for news and/or advertising and have it published. Students receive a minimum of 15 hours of on-the-job training a week by arrangement. Class meets two hours a week. Three credits.

JOURNALISM FIELD STUDY III ...... CJO 5453
Prerequisite: By permission of division director. Work experience at an approved training center under staff supervision. Emphasis on producing a portfolio of published materials sufficient for students to use in pursuing their careers. Students receive a minimum of 15 hours of on-the-job training a week by arrangement. Class meets two hours a week. Three credits.
LEARNING CENTER

JOB SEARCH SKILLS .... CLC 1300
The techniques and procedures for getting a job are described in this course. How to write a job application, develop a resume and interview for a job are covered in lecture, assignments and role playing. Upon completion of the course, the student will have a personal resume and experience in completing a job application and in interviewing from the employer's and employee's viewpoint. One credit.

STUDY SKILLS MINI COURSE .......... CLC 4608
Small group sessions to help develop study skills in test taking; taking notes and using a textbook; critical reading and memory recall; effective listening and classroom strategies; and library and counseling resources. Students will read and discuss basic information. Practice exercises will be provided for use in the lab. Class meets one hour each week. One credit.

STUDY SKILLS .......... CLC 4611
Diagnostic test results place a student at the appropriate level in books and taped programs dealing with previewing study-type reading, notetaking while reading, listening and taking class notes, preparing for and taking examinations, planning time and physical setting. Class meets by arrangement. One credit.

ENGLISH GRAMMAR REVIEW .......... CLC 4612
Diagnostic test results place a student at the appropriate level in programmed materials dealing with parts of speech, sentence structure, verb forms, modifiers, pronoun choice, avoiding sentence fragments and run-ons, punctuation and capitalization. Class meets by arrangement. One credit.

SPELLING IMPROVEMENT .......... CLC 4613
Through systems of tapes, kits or programmed texts, students learn to correct specific kinds of spelling errors. Class meets by arrangement. One credit.

INTRODUCTION TO READING .......... CLC 4601
A structured reading class aimed at developing literal and critical reading comprehension skills and application of these skills in academic areas. Class meets three hours a week. Three credits.

READING COMPREHENSION .......... CLC 4614
Individualized instruction in sequenced kits emphasizing general comprehension skills through use of survey technique and related vocabulary development. Class meets by arrangement. One credit.

READING RATE .......... CLC 4615
Students work toward increased reading rate by adapting materials of their choice to use with reading pacers. Skimming and scanning techniques also are used. Class meets by arrangement. One credit.

DEVELOPMENTAL READING II .......... CLC 4626
Prerequisite: CLC 4609. Group sessions held in this course are designed to enable the hearing impaired student to continue to develop reading skills. Emphasis is on reading, comprehension and vocabulary development through the use of selected readings, Lind 21 decoder, discussion and vocabulary building. Class meets three hours a week. Three credits.

VOCABULARY DEVELOPMENT .......... CLC 4616
Students work toward improved vocabulary by concentrating on techniques of unlocking meaning through context clues and knowledge of roots, prefixes and suffixes. Class meets by arrangement. One credit.

BASIC MATH REVIEW .......... CLC 4617
Diagnostic test results place a student at the appropriate level in programmed materials dealing with addition, subtraction, multiplication, division, fractions, decimals and percents. Class meets by arrangement. One credit.

ALGEBRA PREPARATION .......... CLC 4618
Diagnostic test results place a student at the appropriate level in programmed materials dealing with sets, counting numbers, integers, rational numbers, equations involving two variables, polynomials, factoring, quadratics and absolutes, graphing, exponents and logarithms. Class meets by arrangement. One credit.
CHEMISTRY PREPARATION ........ CLC 4619
Diagnostic test results place a student at the appropriate level in programmed materials, including but not limited to valences, chemical equations, solubility, ionic structures and complexes, the metric system, the atomic theory, thermochemistry, kinetic theory, nuclear structure and chemical equilibrium. Class meets by arrangement. One credit.

INDIVIDUALIZED STUDY ........ CLC 4620
Individualized instruction in areas of special need and interest prescribed on the basis of diagnostic evaluation. Programs of study are tailored to abilities, learning style, interests and degree of self-discipline. Students proceed at their own pace and level on self-motivating materials and projects. Areas of study include grammar, spelling, vocabulary, reading rate/comprehension, study skills, mathematics, algebra and chemistry. Three credits.

INDIVIDUALIZED STUDY ........ CLC 4621
Two credits.

INDIVIDUALIZED STUDY ........ CLC 4622
One credit.

LIFE SCIENCE

LIFE SCIENCE ................. NLS 6540
The fundamental laws, theories and principles of biology are used to study living organisms and their relationships to the nonliving world. Course is taught using audio-visual materials. Six hours of class/lab a week. Four credits.

PRINCIPLES OF BIOLOGY .......... NLS 5020
Explores selected basic concepts and principles that are important in understanding the operation of biological systems. The world of living organisms is examined. Class meets three hours a week. Three credits.

PRINCIPLES OF BIOLOGY LAB .... NLS 5091
Corequisite: NLS 5020 or its equivalent. A laboratory experience that provides a varied selection of activities to enhance the material presented in class. This introductory laboratory involves the structures and functions of plants and animals. Class will meet once a week for three hours. One credit.

GENERAL BOTANY .............. NLS 5402
Basic introduction to plant structure and function. Plant divisions are covered with emphasis on life cycles and evolutionary relationships from the simplest to the most complex plants. Three hours of lecture and four hours of lab each week. Five credits.

GENERAL ZOOLOGY ............ NLS 4241
A survey of animal taxonomies, systematics and ecology of animal populations. Identification of representative members of the animal phyla using their structural characteristics. Interpretation of anatomical and physiological features in terms of adaption. Three hours of lecture and four hours of lab each week. Five credits.

GENERAL GENETICS ........... NLS 4248
Fundamental principles of heredity and variation. Concepts of classical and modern genetics. Plant, animal and human variations are covered. Class meets three hours a week. Three credits.

MICROBIOLOGY ................. NLS 5593
Prerequisite: NPS 6634 or one year of high school chemistry. The study of microorganisms: their cell structure, physiology, antimicrobial agents, immunology and host-parasite relationships. Class meets three hours a week. Three credits.

MICROBIOLOGY LABORATORY ..... NLS 6057
Corequisite: NLS 5593. Students transfer and grow microorganisms using sterile techniques, observe the effects of various environmental conditions and antibiotics on the growth of organisms, and run tests for the identification of microorganisms. Class meets four hours a week. Two credits.

HUMAN ANATOMY AND PHYSIOLOGY .. NLS 6186
Analysis of the relationship of structure to function in the organ systems of the human body. Emphasis on location of anatomical features and interpretations of their functional morphology. Three hours of lecture and four hours of lab each week. Five credits.

HUMAN ANATOMY .............. NLS 1128
Gross and microscopic aspects of cells, tissues and organ systems of the human body. Concentration is on detailed analysis of the structure of each body region. Three hours of lecture and three hours of lab each week. Four credits.

HUMAN PHYSIOLOGY .......... NLS 1144
Prerequisite: NPS 6634. Emphasis on the activities of human cells, tissues, organs and systems in terms of the physical and chemical processes. Living organisms and physiological tools are used to demonstrate the principles of general physiology. Three hours of lecture and three hours of lab each week. Four credits.
PATHOPHYSIOLOGY .......................... NLS 1037
An introduction to the physiology of disease. Common disorders of the body, from the cellular level to the systemic levels are studied. Included are causes, symptoms, diagnostic tests, treatment and therapies of disease. Class meets three hours a week. Three credits.

GENERAL PHARMACOLOGY .............. NLS 1264
Prerequisite: NLS 1144. Identification and classification of therapeutic agents according to mechanism of action, therapeutic and toxic effects, and relation of physiological actions to clinical and experimental practices. Class meets three hours a week. Three credits.

GENERAL NUTRITION .................... NLS 6152
Corequisite: NLS 1144. Principles of nutrition. Sources and utilization of essential nutrients and evaluation of various diets. Recommended diet alterations for the prevention of various pathologies. Class meets three hours a week. Three credits.

ENVIRONMENTAL SCIENCE ............. NLS 6719
An ecological approach to the study of man's impact on the environment. Topics include population, air and water pollution, land use and energy. Class meets three hours a week. Three credits.

ENVIRONMENTAL SCIENCE LAB .......... NLS 4720
Corequisite: NLS 6719. Laboratory work involves sampling the local environment for various types of air, water and noise pollution. Field trips include visiting a local industry, a water treatment plant and a sewage treatment plant to observe pollution control. Class meets two hours a week. In addition, up to five field trips will be required. One credit.

URBAN BOTANY ............................. NLS 4026
Basic principles of landscape design, propagation and culture of common house plants, landscape materials, turf, flowers, trees and shrubs. Three credits.

SPECIAL TOPICS IN BIOLOGY:
SOUTHWESTERN FIELD COURSE . NLS 4914
Course is designed to provide students with natural science field experiences illustrating fundamental concepts and principles in the ideal setting of the southwestern United States. Basic biological concepts which can best be learned through first-hand experiences will be examined. Class meets 22 days in the field. Four credits.

MARKETING MANAGEMENT

RETAILING ............................... BMM 1206
Retail store organization and operation, location and layout, retail buying techniques, human relations, employee supervision, and pricing and merchandising. Class meets three hours a week. Three credits.

RETAIL ADVERTISING AND DISPLAY .............. BMM 1303
Modern techniques of advertising and display. Emphasis on media selection and use, copywriting, ad layout and illustration, showcard writing, display techniques, sales promotion, budgeting and scheduling. Class meets three hours a week. Three credits.

SALESMANSHIP ......................... BMM 5026
Preparation of simulated presentations in specialty, wholesale and industrial areas of selling. Personality development and training materials are reviewed through projects, case problems and speakers. Class meets three hours a week. Three credits.

CREATIVE RETAIL SELLING .............. BMM 2407
Emphasis on the fundamentals of retail selling. An analysis is made of the techniques of the sale. Case problems presented include sales presentations and demonstrations, handling objections and customer complaints, suggestive selling and closing the sale. Class meets three hours a week. Three credits.

SALES MANAGEMENT .................... BMM 2370
Prerequisite: BMM 2407 or 5026. Emphasis on problems and solutions in managing the sales force including recruitment and selection of salespeople, training, compensation and motivation. Sales forecasting, sales planning and ethics are reviewed within different fields of selling. Class meets three hours a week. Three credits.

MARKETING AND MANAGEMENT SEMINAR:
MANAGEMENT DECISION MAKING ........ BMM 3874
Prerequisite: Admission to the Marketing and Management Program. Supervised work experience at an approved business establishment in the community. Management decision making in areas of supervisory human relations and merchandising problems. Sales and related training meetings in areas of marketing and management. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Fall, two or three credits.

MARKETING AND MANAGEMENT SEMINAR:
ORGANIZATION AND OPERATION ........ BMM 3877
Prerequisite: Admission to the Marketing and Management Program. Supervised work experience at an approved business establishment in the community. Preparation of a series of training reports based on employer's operation policies and internal organization and structure. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Fall, two or three credits.

MARKETING AND MANAGEMENT SEMINAR:
MANAGEMENT .................... BMM 3873
Prerequisite: Admission to the Marketing and Management Program. Supervised work experience at an approved business establishment in the community. Application of selling methods to the preparation of an advertising promotional campaign relating to the student's ultimate career objective. Sales management
concepts are incorporated in personal selling and mass sales promotion. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Spring, two or three credits.

MARKETING AND MANAGEMENT SEMINAR: MARKETING RESEARCH ........ MTH 3875
Prerequisite: Admission to the Marketing and Management Program. Supervised work experience at an approved business establishment in the community. Principles and techniques of market research for finding, identifying and determining needs and desires of individuals and organizations for potential business. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Spring, two or three credits.

MARKETING AND MANAGEMENT SEMINAR: FINANCIAL ANALYSIS ....... MTH 3876
Prerequisite: Admission to the Marketing and Management Program. Supervised work experience at an approved business establishment in the community. Course content includes the examination of the basic fundamentals of business math with emphasis on ratio analysis, pricing, payroll and distribution costs. Class meets four hours a week. Minimum of 30 hours a week on-the-job training by arrangement. Summer, two or three credits.

MATHEMATICS

FUNDAMENTALS OF MATH ....... MTH 2122
Review of fractions, decimals and whole numbers. Numeration. Practical applications of percent, dimensions and linear equations. Class meets three hours a week. Three credits.

INTRODUCTION TO ALGEBRA .... MTH 2746
For those who have less than one year of high school algebra or whose training is not current. Includes fundamental algebraic operations, fractions, first and second degree equations, graphs, exponents and radicals. Class meets three hours a week. Three credits.

ALGEBRA .................... MTH 6079
Prerequisite: MTH 3001 or one and one-half years of high school algebra or equivalent. A college algebra course with extensive review of the fundamental algebraic operations followed by a study of polynomial, rational, exponential and logarithmic functions; systems of equations; matrices and determinants; sequences and series; and the binomial theorem. Class meets five hours a week. Five credits.

GEOMETRY .................. MTH 3000
Prerequisite: MTH 7246 (may be taken concurrently) or one year of high school algebra. Intuitive approach to basics of geometry for those students who have not had geometry in high school. Lines, polygons, area, volume, circles, similarity, congruence and coordinate geometry. Class meets two hours a week. Two credits.

FINITE MATHEMATICS ........ MTH 2642
Prerequisite: MTH 7246 or one year of high school algebra or equivalent. Mathematics for the elementary education or liberal arts student. Includes topics selected from logic, geometry, probability, metric system, consumer mathematics, sequences, number systems, statistics, flow-charting and computers. Class meets three hours a week. Three credits.

INTERMEDIATE ALGEBRA ....... MTH 3001
Prerequisite: MTH 7246 or one year of high school algebra and geometry. Polynomials, rational expressions, radicals, equations and inequalities, graphing, relations, functions and systems of equations. Class meets three hours a week. Three credits.

COLLEGE ALGEBRA .......... MTH 3427
Prerequisite: MTH 3001 or two years of high school algebra or equivalent. A study of polynomial, rational, exponential and logarithmic functions, systems of equations, conics, determinants, sequences and series, combinations, binomial theorem. Class meets three hours a week. Three credits.

TRIGONOMETRY ............... MTH 2594
Prerequisite: MTH 6079 or concurrent enrollment in MTH 3427. Not recommended for the student with high school credit in trigonometry. Trigonometric functions, identities, graphs, equations, inverse trigonometric functions, polar coordinates, complex numbers and applications. Class meets three hours a week. Three credits.

CALCULUS I ................. MTH 6463
Prerequisite: MTH 3427 or equivalent. The first course of a two-semester sequence in calculus. Differentiation and integration of algebraic, exponential and logarithmic functions with applications in business, biology and the social sciences. Students must complete Calculus I and Trigonometry before taking Calculus II. Class meets three hours a week. Three credits.

CALCULUS II ............... MTH 5329
Prerequisites: MTH 6463 and MTH 2594. The second course of a two-semester sequence in calculus. Techniques of integration, differential equations and func-
tions of several variables with applications in business, statistics, biology and the social sciences. Class meets three hours a week. Three credits.

ANALYTIC GEOMETRY—CALCULUS I ............. MTH 3268
Prerequisite: MTH 3427 or MTH 6079 and concurrent enrollment in MTH 2594. The first course of a three-semester sequence in analytic geometry and calculus. Elements of plane analytic geometry, differentiation and integration of algebraic functions with applications of each. Class meets five hours a week. Five credits.

ANALYTIC GEOMETRY—CALCULUS II ............. MTH 4313
Prerequisite: MTH 3268 or equivalent. The second course of a three-semester sequence in analytic geometry and calculus. Riemann integral, differentiation and integration of transcendental functions, techniques of integration, polar coordinates and applications. Class meets five hours a week. Five credits.

ANALYTIC GEOMETRY—CALCULUS III ............. MTH 6357
Prerequisite: MTH 4313 or equivalent. The third course in a three-semester sequence in analytic geometry and calculus. Solid analytic geometry, vectors in space, infinite series, partial differentiation, multiple integration and limits. Class meets five hours a week. Five credits.

DIFFERENTIAL EQUATIONS ............. MTH 3675
Prerequisite: MTH 6357 or equivalent. Standard types of ordinary equations, second and higher order linear equations, systems of linear equations, solutions by series, the Laplace transform, and applications. Class meets three hours a week. Spring, three credits.

MODERNIZED METRIC SYSTEM ............. MTH 3609
Background for understanding the international metric system. Experiences concentrate on length, mass, volume, temperature and appropriate prefixes. Class meets one hour a week. One credit.

MATH FOR ELECTRONICS I ............. MTH 9000
The theory and application of algebra as it is used in solving and understanding electronic circuits. Class meets five hours a week. Five credits.

MATH FOR ELECTRONICS II ............. MTH 9001
Prerequisite: MTH 9000. The theory and application of trigonometry as applied to AC circuits, computer number systems and digital math concepts. Class meets five hours a week. Five credits.

TECHNICAL MATHEMATICS I ............. MTH 5722
Prerequisite: MTH 2122 or arithmetic proficiency test in Testing Center. International Standard mensuration; percent, proportion, linear equations and graphs; formulation, trigonometry of right triangles. Emphasis on technological applications from industry. Class meets three hours a week. Three credits.

TECHNICAL MATHEMATICS II ............. MTH 5387
Prerequisite: MTH 5722 or equivalent. Plane and solid geometry quantification; quadratic equations and graphs; trigonometric functions and laws; vectors and complex numbers; exponential and logarithmic equations and graphs; layperson's statistics and financial mathematics. Class meets five hours a week. Five credits.

COMPUTER-ASSISTED LEARNING: BASIC

Prerequisite: MTH 3609 or equivalent. Introduces descriptive statistics, probability models, sampling distribution, hypothesis testing, chi-square test, regression and correlation. Emphasis on practical applications. Class meets three hours a week. Three credits.

COMPUTER-ASSISTED LEARNING: BASIC

The computer will progressively instruct the student in BASIC using a conversational approach. Standard instruction set in BASIC as well as Apple's sound and graphics capabilities will be included. Emphasis is on how BASIC commands, statements and other features work together to form programs. Two to three hours a week on the computer suggested. By arrangement. One credit.
MEDICAL LABORATORY TECHNOLOGY

DIAGNOSTIC PARASITOLOGY AND MYCOLOGY ........................................... NLT 9759
Prerequisites: Completion of first year of the MLT program or completion of NLS 5593 and NLS 6057. The student will study the morphological features, clinical collection and diagnosis of the pathological parasitic and mycotic infections in humans. These fungi and parasites will be integrated closely with the specific disease process and treatment. Class meets one hour a week. One credit.

INTRODUCTION TO THE CLINICAL LAB .................................................. NLT 9760
Prerequisite: High school algebra. Study of the organization and career roles in the laboratory. Students will examine and use laboratory calculations. Class meets one hour a week. One credit.

FUNDAMENTAL TECHNIQUES AND PROCEDURES .................................... NLT 9761
Students will study and perform fundamental procedures used in the clinical laboratory. They will study pathologic disease states, and study and apply the principles of quality control to clinical procedures. Class meets four hours a week. Three credits.

DIAGNOSTIC MICROBIOLOGY .............................................................. NLT 9762
Prerequisite: Completion of the first year of the MLT program or consent of the instructor. The student will study the morphology, growth characteristics and pathological implications of bacteria and will correlate this with findings in various disease states. Class meets three hours a week. Three credits.

CLINICAL PRACTICUM I ................................................................. NLT 9763
Prerequisite: Satisfactory completion of the first year of the MLT program or consent of the instructor. In a clinical setting, the student will observe, practice and perform laboratory procedures under the supervision of clinical instructors. The student should be able to integrate didactic knowledge with clinical experience. Class meets 35 hours a week. Five credits.

CLINICAL PRACTICUM II ................................................................. NLT 9766
Prerequisite: NLT 9763. The student will observe, practice and apply techniques of hematology and clinical chemistry, both manual and automated. Class meets 35 hours a week. Ten credits.

CLINICAL PRACTICUM III ................................................................. NLT 9769
Prerequisite: NLT 9766. The student will observe, practice and apply techniques of applied immunology, urinalysis and the other specialty areas of the clinical laboratory. Class meets 35 hours a week. Ten credits.

CLINICAL CHEMISTRY ................................................................. NLT 9764
The student will review and integrate specific pathologic conditions with chemical procedures. Class meets three hours a week. Four credits.

HEMATOLOGY .......................................................... NLT 9765
Prerequisite: Completion of first year of MLT program or consent of instructor. The student will study the formation, morphology and functions of the formed blood cell elements. These findings will be integrated with specific pathologic processes. Hemostasis and coagulation will also be included. Three credits.

DEPARTMENTAL SEMINAR ............................................................ NLT 9767
The student will review pathologic conditions of the kidney and urinary tract and will integrate these conditions with laboratory findings. The student will review specialized areas of laboratory medicine. Class meets three hours a week. Three credits.

APPLIED IMMUNOLOGY ............................................................ NLT 9768
Prerequisite: Completion of first year of MLT program or consent of instructor. The student will study the immunological and immuno-hematological functions and will integrate them with in vivo and in vitro conditions. Class meets three hours a week. Three credits.

PHLEBOTOMY COLLOQUIA ........................................................... NLT 4173
Prerequisite: Consent of the instructor. Students will study phlebotomy with emphasis on practical applications of all modalities used in a clinical setting. Six credits.

MEDICAL RECORDS TECHNOLOGY

INTRO. TO THE MEDICAL RECORD PROFESSION ...................................... NMR 1135
Prerequisite: Admission to program. Orientation to the medical record profession, the language of medicine, and medical ethics in professional relationships. An introduction to the history of medicine, hospital and medical staff organization, and function and roles of health professionals. Class meets two hours a week. Two credits.
HEALTH STATISTICS AND RESEARCH METHODS

Prerequisite: NMR 2681 or by permission. Vital and health statistics, their uses and values. How to abstract and analyze data from a medical record and other sources. Class meets three hours a week. Two credits.

HEALTH RECORD SYSTEMS: ANALYSIS AND CONTROLS

Prerequisite: NMR 1135 or by permission of coordinator. An in-depth study of storage, retrieval and control of various medical record systems. The content, use and preservation of medical records. Accrediting, licensing and approval agencies' requirements on documentation and information systems. Class meets four hours a week. Three credits.

CLASSIFICATIONS, NOMENCLATURES, INDICES AND REGISTRIES

Prerequisites: NMR 2681, NLS 6186. Corequisite: NS 2686. Study of the various nomenclatures of diseases and operations, indices and registries, and methods of retrieval and presentation of data for research purposes. Class meets three hours a week. Two credits.

QUALITY ASSURANCE AND SELECTED HEALTH RECORD SYSTEMS

Prerequisite: NMR 2682 or by permission of coordinator. Study of health records and services of long-term and ambulatory care. Emphasis on quality assurance requirements or regulatory agencies and the methodology and procedures in assessing quality of care. Class meets four hours a week. Three credits.

LEGAL ASPECTS OF MEDICAL RECORDS

Prerequisite: NMR 2682. An investigation of relevant aspects of federal and state judicial opinions, statutes, rules and regulations. Methods and procedures for disclosure of confidential information as applied to medical records. Class meets two hours a week. Two credits.

DIRECTED PRACTICE I

Prerequisites: NMR 1135, NMR 2681. Corequisite: NMR 2685. Students develop skills in laboratory and perform procedures in medical record departments in health facilities associated with the program. Assignments related to numbering and filing systems, health data collection and presentation, medical record processing and patient registration. Hours by arrangement. Three credits.

DIRECTED PRACTICE II

Prerequisites: NMR 7111, NMR 2682, BSC 4715. Corequisite: NMR 2683. Experience in a variety of procedures performed in the laboratory and clinical setting. Clinical experience is gained in coding and abstracting health information, tumor registry, medical transcription and quality assurance. Hours by arrangement. Four credits.

DIRECTED PRACTICE III

Prerequisites: NMR 2683, NMR 1325. Corequisite: NMR 2684. Continuation of supervised laboratory and clinical experience in medical record departments affiliated with the MRT program. Procedures relate to classroom-acquired knowledge of functions of medical record technicians. Hours by arrangement. Five credits.

DEPARTMENTAL SEMINAR

Prerequisite: NMR 2683. Corequisite: NMR 3117. This course is a forum for medical record principles and practices. Affiliation experiences and research projects are shared with the class. Supervisory and management principles are applied to functions and activities of medical record department. Class meets two hours a week. Two credits.

MEDICAL TERMINOLOGY

MEDICAL TERMINOLOGY I

Self-instructional approach to learning medical terminology. A handbook and tapes are designed to give the student a start on building a medical vocabulary, stressing definition, spelling and pronunciation of terms. Student selects systems to be studied from six areas: respiratory, circulatory, digestive, musculoskeletal, genitourinary and nervous systems. Class meets by arrangement. Two credits.

MEDICAL TERMINOLOGY II

Prerequisite: NS 5381. Continuation of NS 5381. Student may choose any two areas not previously studied. Class meets by arrangement. One credit.

MEDICAL TERMINOLOGY III

Prerequisite: NS 6476. Continuation of NS 6476. Student may choose any two areas not previously studied. Class meets by arrangement. One credit.

MEDICAL TERMINOLOGY IV

Prerequisite: NMR 1135 and NLS 6186. Review of anatomical roots, prefixes and suffixes. Further study of descriptive terms, laboratory tests, diseases and operations for each system of the body. Class meets three hours a week. Three credits.
MEDICAL TRANSCRIPTION

MEDICAL TRANSCRIPTION PRACTICUM ........ NMT 3413
Prerequisite: BSC 4715, NS 2686, NMR 2681 or by permission of coordinator. Supervised work experience in medical transcription. Typing medical reports dictated by physicians from transcriber equipment. Previously acquired knowledge and skills are applied and enhanced by this job related experience. Hours by arrangement. Four credits.

MENTAL HEALTH TECHNOLOGY

MENTAL HEALTH TECHNOLOGY I NMH 8881
Prerequisite: Admission to the program. Basic concepts necessary for the maintenance of normal physical health. A supervised clinical practicum integrates basic procedures, such as assessing normal body functioning; measures of comfort, safety and hygiene; observing and recording nutrition; pharmacology; life-saving measures and health teaching measures. This course includes requirements for certification in first aid and cardiopulmonary resuscitation. Class meets six hours a week. Four credits.

MENTAL HEALTH TECHNOLOGY II NMH 2383
Prerequisite: NMH 8881. A broad overview of basic psychiatric concepts. Study of patterns of behavior commonly associated with mental illness is incorporated in the clinical practicum. The clinical practicum provides experience with young and adult psychiatric patients, the elderly, mental retardation and substance abuse. Class meets eleven hours a week. Six credits.

MENTAL HEALTH TECHNOLOGY III NMH 7884
Prerequisite: NMH 2383. An in-depth study of the patterns of behavior and treatment modalities associated with mental illness. A clinical practicum will provide experience with the common psychiatric disorders as well as emergency social problems. Class meets ten hours a week. Six credits.

MENTAL HEALTH TECHNOLOGY IV NMH 4885
Prerequisite: NMH 7884. Signs, symptoms and care of physical health problems. Specific treatment and principles are integrated in a clinical practicum which provides experience with adults and children in physical distress. Class meets thirteen hours a week. Seven credits.

METAL FABRICATION

INTRODUCTION TO METAL FABRICATION ........ TMF 8025
Students will have the opportunity to learn basic welding procedures, sheet metal work and other metal trades and how they interrelate to other technologies. A study of safety in the use and handling of material as well as its relationship and compatibility with other materials used in industry. Students will review various finish methods and applications. One hour of lecture, six hours of lab each week. Three credits.

INTRODUCTION TO METALLURGY .. TMF 8017
In this course about the art of metallurgy, focus is on deriving metals from ores; conditions in which metals are found in nature; the purification process; the admixture with other metals; the environmental impact; and manufacturing metals into usable shapes and forms. The class will review the theory of heat treatment in the fundamental processes and concentrate on transforming theory into application in the fabrication processes. Two hours of lecture, three hours of lab each week. Three credits.

TESTING AND INSPECTION ............... TMF 8016
This course is designed to acquaint students with the use of materials in technology. The course deals with materials; various applications; and how the materials perform under different load conditions and environmental characteristics. Also studied will be the size and shape of good designs; precision tool measurement; safety practices; and testing methods and procedures for various materials. One hour of lecture, six hours of lab each week. Three credits.

INTRODUCTION TO WELDING ......... TMF 8031
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. Six hours lecture/lab a week. Three credits.

MIG AND TIG I .................... TMF 8019
Prerequisite: TMF 8031. 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 are covered in this course. Application of processes include the use of welding symbols, blueprint reading and testing of welds. Six hours lecture/lab a week. Three credits.
MIG AND TIG II .......................... TMF 8020
Prerequisite: TMF 8019. Course includes a review of the theory of GMAW and GTAW, GTAW on stainless steel, flux cored arc welding (FCAW) on steel, GMAW on aluminum and GMAW on steel. Six hours lecture/lab a week. Three credits.

V-BUTT ARC WELDING .......................... TMF 8021
Prerequisite: TMF 8031. Course includes the theory and practice of out-of-position oxy-fuel welding; oxy-fuel brazing; shielded metal arc welding (SMAW) of v-but 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. Six hours lecture/lab a week. Three credits.

MUSIC

INTRO. TO MUSIC LISTENING ............. HMU 8927
An introductory survey of the development of music as an art with emphasis on listening. Recorded music including medieval, classical and contemporary will be presented. Class meets three hours a week. Three credits.

INTRO. TO MUSIC FUNDAMENTALS . HMU 7669
Basic study of notation of melody, rhythm and meter as well as musical terminology. For the elementary classroom teacher or music student without sufficient background for theory. Class meets two hours a week. Two credits.

INTRO. TO JAZZ LISTENING ............. HMU 2777
An introduction to the history of jazz in America with an emphasis on listening. Course will focus on trends, periods and styles. Class meets three hours a week. Three credits.

SIGHT-SINGING AND EAR TRAINING I ........ HMU 7656
Course presents the melodic, harmonic and rhythmic elements of music by integrating aural and sight-reading skills. Class meets two hours a week. Two credits.

SIGHT-SINGING AND EAR TRAINING II .......... HMU 5107
Prerequisite: HMU 7656. Course presents an advanced study of the melodic, harmonic and rhythmic elements of music by integrating aural and sight-reading skills. Class meets two hours a week. Two credits.

SIGHT-SINGING AND EAR TRAINING III ........ HMU 3628
Prerequisite: HMU 5107. Continued advanced study of the melodic, harmonic and rhythmic elements. Class meets two hours a week. Two credits.

SIGHT-SINGING AND EAR TRAINING IV .......... HMU 7563
Prerequisite: HMU 3628. Continued advanced study and improvement of aural and sight-reading skills with melodic and harmonic dictation. Class meets two hours a week. Two credits.

MUSIC THEORY: HARMONY I ........... HMU 5010
Review of the fundamentals of music. Introduction to melodic line construction, triads and the connection of chords in four-part music writing. Class meets two hours a week. Two credits.

MUSIC THEORY: HARMONY II .......... HMU 3559
Prerequisite: HMU 5010. Continuation of work with melodic line, triads and connection of chords in four-part music writing. Emphasis on inverted triads and submediant triads. Introduction to elementary modulation. Class meets two hours a week. Two credits.

MUSIC THEORY: HARMONY III .......... HMU 6014
Prerequisite: HMU 3559. Continuation of work with modulation, nonharmonic tones and inverted triads in four-part music writing. Introduction of less common chord progressions, diatonic seventh chords, altered chords and borrowed chords. Emphasis on original student composition as vehicle for study of materials. Class meets two hours a week. Two credits.

MUSIC THEORY: HARMONY IV ........ HMU 2270
Prerequisite: HMU 6014. Continuation of work with original compositions. Introduction to augmented triads. Neapolitan, French and German sixth chords, chords at the ninth, eleventh, thirteenth, advanced modulation and basic counterpoint. Class meets two hours a week. Two credits.

MIXED VOCAL ENSEMBLE I ........... HMU 9028
Open to all students. Rehearsal and performance of vocal music. Occasional joint performances with chamber choir. Ensemble will perform some contemporary jazz and pop materials. Class meets three hours a week. One credit.

MIXED VOCAL ENSEMBLE II ........... HMU 9029
Prerequisite: HMU 9028. Continuation of Mixed Vocal Ensemble I. Class meets three hours a week. One credit.

MIXED VOCAL ENSEMBLE III ........... HMU 9030
Prerequisite: HMU 9029. Continuation of Mixed Vocal Ensemble II. Class meets three hours a week. One credit.

MIXED VOCAL ENSEMBLE IV ........... HMU 9031
Prerequisite: HMU 9030. Continuation of Mixed Vocal Ensemble III. Class meets three hours a week. One credit.

CHAMBER CHOIR I ............... HMU 6529
Prerequisite: By audition. Rehearsal and performance of vocal music. Choir performs at various student and community activities. Class meets three hours a week. One credit.
CHAMBER CHOIR II ............... HMU 2305
Prerequisite: HMU 6529. Continuation of Chamber Choir I. Class meets three hours a week. One credit.

CHAMBER CHOIR III ............... HMU 7542
Prerequisite: HMU 2305. Continuation of Chamber Choir II. Class meets three hours a week. One credit.

CHAMBER CHOIR IV ............... HMU 1208
Prerequisite: HMU 7542. Continuation of Chamber Choir III. Class meets three hours a week. One credit.

STUDENT JAZZ ENSEMBLE I ........ HMU 6410
Prerequisite: By audition. Performances of jazz and popular music at public concerts and College functions. Class meets six hours a week. Two credits.

STUDENT JAZZ ENSEMBLE II ........ HMU 6411
Prerequisite: By audition. Continued performance of jazz and popular music at public concerts and College functions. Class meets six hours a week. Two credits.

STUDENT JAZZ ENSEMBLE III ........ HMU 6412
Prerequisite: By audition. Continued performance of jazz and popular music at public concerts and College functions. Class meets six hours a week. Two credits.

STUDENT JAZZ ENSEMBLE IV ........ HMU 6413
Prerequisite: By audition. Continued performance of jazz and popular music at public concerts and College functions. Class meets six hours a week. Two credits.

JAZZ IMPROVISATION I ............ HMU 2262
Prerequisite: High school playing experience. Fundamental approach to rhythm and melodic lines involved in creative improvisation. Basic procedures in analyzing chords and chord structures as an outline for organized spontaneous playing. Class meets two hours a week. Two credits.

JAZZ IMPROVISATION II ............ HMU 1245
Prerequisite: HMU 2262. Continuation of Jazz Improvisation I. Creative improvisation and basic pro-
cedures in analyzing chord structures as an outline for organized spontaneous playing. Class meets two hours a week. Two credits.

BAND I ......................... HMU 8008
Prerequisite: High school playing experience. This organization draws its literature from the concert band repertoire with emphasis on early works and original contemporary selections. Class meets three hours a week. One credit.

BAND II ......................... HMU 8009
Prerequisite: HMU 8008 or by permission. Continuation of Band I. Class meets three hours a week. One credit.

BAND III ......................... HMU 8010
Prerequisite: HMU 8009 or by permission. Continuation of Band II. Class meets three hours a week. One credit.

BAND IV ......................... HMU 8011
Prerequisite: HMU 8010 or by permission. Continuation of Band III. Class meets three hours a week. One credit.

ORCHESTRA I .................... HMU 3671
Prerequisite: By audition. Rehearse and perform with the Overland Park Civic Orchestra. Class meets one evening a week for two hours. One credit.

ORCHESTRA II .................... HMU 1374
Prerequisite: HMU 3671 or by audition. Rehearse and perform with the Overland Park Civic Orchestra. Class meets one evening a week for two hours. One credit.

ORCHESTRA III .................... HMU 1049
Prerequisite: HMU 1374 or by audition. Rehearse and perform with the Overland Park Civic Orchestra. Class meets one evening a week for two hours. One credit.

ORCHESTRA IV .................... HMU 2534
Prerequisite: HMU 1049 or by audition. Rehearse and perform with the Overland Park Civic Orchestra. Class meets one evening a week for two hours. One credit.

CHAMBER ENSEMBLE I ............. HMU 3146
Prerequisite: High school playing experience. The study and performance of standard literature for ensembles: brass, woodwind and percussion. Class meets two hours a week. One credit.

CHAMBER ENSEMBLE II ............ HMU 4166
Prerequisite: HMU 3146. Continued study and performance of standard literature for ensembles: brass, woodwind and percussion. Class meets two hours a week. One credit.

CHAMBER ENSEMBLE III ............ HMU 5202
Prerequisite: HMU 4166. Continued study and performance of standard literature for ensembles: brass, woodwind and percussion. Class meets two hours a week. One credit.
CHAMBER ENSEMBLE IV ................ HMU 6213
Prerequisite: HMU 5202. Continued study and performance of standard literature for ensembles: brass, woodwind and percussion. Class meets two hours a week. One credit.

APPLIED GUITAR I (CLASS) ............... HMU 4771
Class instruction with emphasis on learning to play the guitar from the beginning stages. Class meets one hour a week. One credit.

APPLIED GUITAR II (CLASS) ............... HMU 2772
Prerequisite: HMU 4771.

APPLIED GUITAR III (CLASS) ............... HMU 1773
Prerequisite: HMU 2772.

APPLIED GUITAR IV (CLASS) ............... HMU 5774
Prerequisite: HMU 1773.

APPLIED GUITAR I (PRIVATE) ............. HMU 6787
Private instruction on guitar. Lesson time by arrangement, one-half hour a week. One credit.

APPLIED GUITAR II (PRIVATE) ............. HMU 1788
Prerequisite: HMU 6787.

APPLIED GUITAR III (PRIVATE) ............. HMU 6789
Prerequisite: HMU 1788.

APPLIED GUITAR IV (PRIVATE) ............. HMU 5790
Prerequisite: HMU 6789.

APPLIED PIANO I (CLASS) ............... HMU 8767
Class instruction with emphasis on learning to play the piano from the early stages. Classes meet one hour a week. One credit.

APPLIED PIANO II (CLASS) ............... HMU 4768
Prerequisite: HMU 8767.

APPLIED PIANO III (CLASS) ............... HMU 8769
Prerequisite: HMU 4768.

APPLIED PIANO IV (CLASS) ............... HMU 5770
Prerequisite: HMU 8769.

APPLIED PIANO I (PRIVATE) ............. HMU 6783
Private instruction on piano. Lesson time by arrangement, one-half hour a week. One credit.

APPLIED PIANO II (PRIVATE) ............. HMU 1784
Prerequisite: HMU 6783.

APPLIED PIANO III (PRIVATE) ............. HMU 4785
Prerequisite: HMU 1784.

APPLIED PIANO IV (PRIVATE) ............. HMU 8786
Prerequisite: HMU 4785.

APPLIED PERCUSSION I (PRIVATE) ........ HMU 1799
Private instruction on percussion instrument of student's choice. Lesson time by arrangement, one-half hour a week. One credit. (Music majors)

APPLIED PERCUSSION II (PRIVATE) ........ HMU 6800
Prerequisite: HMU 1799.

APPLIED PERCUSSION III (PRIVATE) ........ HMU 4801
Prerequisite: HMU 6800.

APPLIED PERCUSSION IV (PRIVATE) ........ HMU 1802
Prerequisite: HMU 4801.

APPLIED BRASS I (PRIVATE) ............. HMU 5795
Private instruction on a brass instrument of the student's choice. Lesson time by arrangement, one-half hour a week. One credit. (Music majors)

APPLIED BRASS II (PRIVATE) ............. HMU 7796
Prerequisite: HMU 5795.

APPLIED BRASS III (PRIVATE) ............. HMU 9797
Prerequisite: HMU 7796.

APPLIED BRASS IV (PRIVATE) ............. HMU 6798
Prerequisite: HMU 9797.

APPLIED VOICE I (CLASS) ............... HMU 1763
Class instruction with emphasis on learning to sing from the beginning stages. Class meets one hour a week. One credit.

APPLIED VOICE II (CLASS) ............... HMU 2764
Prerequisite: HMU 1763.

APPLIED VOICE III (CLASS) ............... HMU 4765
Prerequisite: HMU 2764.
NURSING

NURSING CARE OF THE INDIVIDUAL: CONCEPTS OF HEALTH .......... NRN 8846
Prerequisite: Admission to the nursing program. Co-requisites: NLS 1128 and SS 1068. This is the first of four sequential courses and will serve as an introduction to nursing with emphasis on the maintenance of homeostasis in individuals of various age groups. This course furnishes the concepts and skills needed to provide basic nursing care and provides a foundation for subsequent nursing courses. Four hours of class and twelve hours of lab a week. Fall, eight credits.

NURSING CARE OF THE INDIVIDUAL: ADAPTATION TO CHANGE .......... NRN 3131
Prerequisite: NRN 8846. Corequisite: NLS 1144 and SS 3546. This is the second of four sequential nursing courses and provides an opportunity for students to explore the impact of altered homeostasis on the individual and family. This second clinical nursing course offers students an opportunity to apply the nursing process in meeting adaptive needs of individuals. Clinical laboratory practice is an integral part of the course. Four hours of class and twelve hours of clinical lab a week. Spring, eight credits.

NURSING CARE OF THE INDIVIDUAL: SHORT-TERM HEALTH PROBLEMS .......... NRN 2847
Prerequisite: NRN 3131 and SS 3546. The third in a sequence of four courses in the nursing sequence focuses 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. Clinical laboratory experience in health care agencies is an important part of the course. Four hours of class and fifteen hours of clinical lab a week. Fall, nine credits.
NURSING CARE OF THE INDIVIDUAL: LONG-TERM HEALTH PROBLEMS ...... NRN 5848
Prerequisite: NRN 2847. The fourth in a sequence of four nursing courses focusing on the individual whose optimum state of well-being has been altered by chronic, progressive disruptive problem(s) which require implementation of the nursing process. Emphasis is on the concept of rehabilitation, adaptation to a permanently altered lifestyle, and the development and/or reestablishment of independence. The role of the AD graduate seeking employment in the community is stressed. Four hours of class and fifteen hours of clinical lab a week. Spring, nine credits.

LPN-RN TRANSITION COURSE ...... NRN 3655
Prerequisite: Licensing as Vocational Practical Nurse. Admission with advanced standing to Nursing Program. An orientation to the Associate Degree Nursing Program philosophy and criteria for LPNs seeking advanced standing. The course focuses on group process, relationships, the role of the AD graduate, communication skills and nursing process. Individual assessment and assistance is emphasized. Class meets twenty-four hours a week for six weeks. Eight credits.

NAACOG CERTIFICATION PREPARATION ...... NRN 9732
Prerequisites: 1) current licensure as an RN in the U.S. or Canada, 2) verification of two years experience as an RN in inpatient obstetric nursing, 3) documentation of employment in the inpatient obstetric nursing field on either a full-time or part-time basis within the last 24 months. Prepares the Registered Nurse with two years of clinical experience in Obstetric-Gynecology area for credentialing by the Nurses Association of the American College of Obstetricians and Gynecologists (NAACOG). Class meets two hours a week. Two credits.

CERTIFIED MEDICAL AIDE ...... NRN 4189
Prerequisites: Valid nurse aide certificate for Kansas nursing home. Written recommendation from administrator of nursing home. Good physical and mental health. Class instruction includes 72 didactic hours and 8 hours clinical practicum leading to Kansas State certification as a medication aide. Eight hours of lecture and one hour of lab each week. Four credits.

PARALEGAL

INTRODUCTION TO PARALEGALISM BPL 9739
Introductory study of the legal system with special emphasis on the role of the paralegal within that system. Students will be exposed to the operation and structure of the state and federal court systems, administrative agencies, private law firms and public sector law offices. Procedural and substantive aspects of the law will be discussed with consideration given to the education and training of paralegals. Class meets three hours a week. Three credits.

LEGAL RESEARCH AND WRITING ...... BPL 7740
Prerequisite: BPL 9739 or concurrent enrollment or permission of coordinator. A practical approach to legal research problems normally encountered in the practice of law. The student will become familiar with legal publications and will be trained in their use in solving legal problems through research projects. The course will cover the methods and various forms of legal writing. Class meets three hours a week. Three credits.

BUSINESS ORGANIZATIONS I ...... BPL 2184
Prerequisite: BPL 9739 or permission of coordinator. The study of the legal organizations of various business entities such as corporations, partnerships and sole proprietorships. Emphasis is on the function of the lawyer and the legal assistant in the formation and operation of business organizations. This includes a practical review of the fundamental legal concepts applicable to each type of business organization studied and preparation of related documents. Class meets three hours a week. Three credits.

BUSINESS ORGANIZATIONS II ...... BPL 3320
Prerequisite: BPL 2184 or permission of coordinator. Study of the various business entities with emphasis on the function of a paralegal in a law office in connection with the organization and operation of business organizations. This will be a continuation of Business Organizations I and will include a further review and preparation of related documents. Class meets three hours a week. Three credits.

REAL ESTATE LAW I ......... BPL 2828
Prerequisite: BPL 9739 or permission of coordinator. Study of the law of real property and the common types of real estate transactions and conveyances. Various legal instruments such as deeds, contracts, leases, deeds of trust and mortgages are studied with emphasis on their preparation. Study activities in-
clude projects and practice in retrieving and recording information. Class meets three hours a week. Three credits.

REAL ESTATE LAW II .................... BPL 6090
Prerequisite: BPL 2828 or permission of coordinator. Detailed study of real estate transactions, with emphasis on leases, sale leasebacks, land financing, closings, commissions and the real estate transaction as a whole. This course will be a continuation of Real Estate Law I and will include document preparations by the student for a real estate transaction from inception to conclusion. Class meets three hours a week. Three credits.

WILLS, TRUSTS AND PROBATE ADMINISTRATION ............... BPL 7826
Prerequisite: BPL 9739 or permission of coordinator. The study of the basic legal concepts applicable to wills, trusts and procedures for the administration of trusts and estates. Included are techniques for fact gathering, inheritance and estate tax principles, use of trusts, will drafting and probate procedures. Emphasis is on standard procedures used in the assistance of lawyers in these matters. Class meets three hours a week. Three credits.

ESTATE PLANNING ....................... BPL 2218
Prerequisite: BPL 7826 or permission of coordinator. Study of estate planning with emphasis on estate tax considerations. Includes the preparation of federal estate tax forms, state inheritance forms, fiduciary income tax returns and the drafting of trust provisions as they relate to estate planning matters. Class meets three hours a week. Three credits.

LITIGATION I ......................... BPL 7917
Prerequisite: BPL 9739 and BPL 7740 or permission of coordinator. Analysis and discussion of the civil litigation process with emphasis on the practice aspects involved in the trial of a civil lawsuit. Includes the study of various types of litigation; Kansas, Missouri and federal civil procedures; trial preparation; trial and post-trial matters. Class meets three hours a week. Three credits.

LITIGATION II ....................... BPL 8940
Prerequisite: BPL 7917 or permission of coordinator. This course is a continuation of the principles studied in Litigation I with emphasis on the trial and appellate stages of civil litigation. Includes in-depth preparation of pleadings and related documents. Class meets three hours a week. Three credits.

FAMILY LAW ........................... BPL 1910
Prerequisite: BPL 9739 or permission of coordinator. Basic substantive law in the area traditionally known as family law will be covered. Specific subjects will be adoption, guardianships, child custody and support, name changes, contested and uncontested divorces. Emphasis on use of court forms, preparation of pleadings and settlement agreements and use of interviewing checklists. Class meets three hours a week. Three credits.

LAW OFFICE SYSTEMS .............. BPL 2175
Prerequisite: BPL 9739 or permission of coordinator. Study of the internal functions of the law office or legal department, including personnel matters, office systems such as docketing and time controls, law library maintenance, filing systems, financial and accounting management and office equipment. Class meets three hours a week. Three credits.

COMMERCIAL TRANSACTIONS .... BPL 9918
Prerequisite: BPL 9739 or permission of coordinator. Study of the basic principles of personal property and contracts with emphasis on documents and forms related to sales and credit transactions. Includes preparation of business and commercial documents and the application of provisions of the Uniform Commercial Code. Class meets three hours a week. Three credits.

RETIREMENT PLANS–QUALIFICATIONS AND ADMINISTRATION .......... BPL 4036
Prerequisites: BPL 2184, BPL 3866 or BPL 3867 or permission of coordinator. Study of qualified retirement plans with emphasis on their design, funding and operation. Course will include the preparation of documents necessary for qualification, administration and termination. Also will discuss related retirement plans such as KEOGH and IRAs. Class meets three times, five hours each session. One credit.

SEMINAR: LEGAL INTERVIEWING AND INVESTIGATION ............... BPL 3867
Prerequisites: BPL 9739 and at least nine credits in other paralegal courses. Work experience in an approved training situation under instructional supervision. Designed to provide practical experiences in the use of skills acquired in prerequisite courses with classroom emphasis on interviewing, investigation and preparation of legal checklists. A minimum of fifteen hours on-the-job training a week by arrangement. Class meets two hours a week. Two or three credits.

SEMINAR: WORKERS' COMPENSATION AND BANKRUPTCY .......... BPL 3866
Prerequisites: BPL 9739 and at least nine credits in other paralegal courses. Work experience in an approved training situation under instructional supervision. Designed to provide practical experience in the use of skills acquired in prerequisite courses. Classroom emphasis on the use of forms and procedures in the areas of bankruptcy and workers' compensation. A minimum of fifteen hours on-the-job training a week by arrangement. Class meets two hours a week. Two or three credits.
PHOTOGRAPHY

PHOTOGRAPHY I .................. HPH 5555
Basic processes and principles. Theory and practice of photography as an essential tool of the visual communicator. Emphasis on development of competence in the use of photographic equipment and materials. Topics include cameras, light meters, films, developing negatives, printing, filters, chemicals and presentation. Students must provide their own camera with adjustable focus, shutter speeds and aperture. Class meets for three hours of classroom lecture/critique and three hours of instructor-supervised lab/demonstration each week. Three credits.

PHOTOGRAPHY II .................. HPH 6666
Prerequisite: HPH 5555. Emphasis will be on the development of 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. Also, introduction to basic view camera techniques. Class meets for three hours of classroom lecture/critique and three hours of instructor-supervised lab/demonstration each week. Three credits.

COLOR TRANSPARENCIES ............. HPH 5481
Prerequisite: HPH 5555. Theory and practice of the materials, camera techniques, processing and various applications of 35mm color slides. Emphasis on use of color slides in audio-visual presentations, documentation, commercial illustration, travel photography and other communication. Students must supply their own 35mm camera with adjustable shutter, aperture and focus, as well as film, slide mounts and carousel slide trays. Class meets for two hours lecture/demonstration and two hours of lab each week. Two credits.

HISTORY OF PHOTOGRAPHY ........... HPH 4009
A survey of the history of photography from the 1830s to the present. The technology and aesthetics of photography will be covered and related, in an interdisciplinary manner, to the broader histories of art, culture and ideas. Class meets three hours a week. Three credits.

ISSUES IN CONTEMPORARY PHOTOGRAPHY .................. HPH 3417
Prerequisite: HPH 4009. Here is a survey of current photography as it relates to the broader aspects of modern culture and thought. Discussion will cover important contemporary photographers, new color photography, recent criticism and photography's relation to the art world. Class meets three hours a week. Three credits.

PHYSICAL DEVELOPMENT

INTRODUCTION TO PHYSICAL EDUCATION ............ PD 6340
Principles of physical education, history, philosophy, theory and practice. Class meets three hours a week. Three credits.

CONCEPTS IN PHYSICAL DEVELOPMENT ............ PD 4055
A study and application of physical fitness principles. A personal analysis of physical condition and a program of physical exercise and sport enables student to develop a personal fitness schedule. Class meets three hours a week. Three credits.

ELEMENTARY PHYSICAL EDUCATION ............ PD 1028
This course is designed to prepare elementary teachers to plan and evaluate a physical education program for their class. The first part will help develop an understanding of basic skill development and locomotion patterns. The second part will deal with the nature of play and elementary physical education curriculum planning. Class meets three hours a week. Three credits.
INDIVIDUAL LIFETIME SPORTS .......... PD 4291
Group instruction and practical experience in badminton, racquetball, golf and tennis. Emphasis on planning and organization of these lifetime sports in a recreation setting. Class meets three hours a week. Two credits.

PERSONAL HEALTH AND COMMUNITY
HYGIENE ......................... PD 4368
Problems of maintaining good health. Topics include exercise and fitness, drug abuse, emotional health, proper nutrition, alcohol, tobacco, chronic and communicable diseases, human sexuality and consumer health. Special emphasis on the individual's relationship concerning community health. Class meets three hours a week. Three credits.

FIRST AID .......................... PD 2711
American Red Cross Certification in standard first aid and personal safety. Cause, prevention and first aid care of common emergencies. Red Cross Certification also given in cardiopulmonary resuscitation. Class meets three hours a week. Three credits.

PREVENTION OF SPORTS INJURY ...... PD 5712
Fundamentals of athletic training techniques with emphasis on prevention of sports injuries, rehabilitation and taping techniques and proper nutrition. Information is for both the competitive and recreational athlete. Upon successful completion of the course the student will receive Cramer Certification as a student trainer. Class meets three hours a week. Three credits.

FUNDAMENTALS OF ATHLETICS ...... PD 4146
Course covers the importance of sport in society; issues brought up in sport; career opportunities in the field of sports. Class meets three hours a week. Two credits.

FUNDAMENTALS OF BASKETBALL ...... PD 1153
Fundamentals of offensive and defensive basketball, individual and team play, and strategy and rules. Class meets three hours a week. Two credits.

FUNDAMENTALS OF BASEBALL (BEGINNING) .... PD 1727
Introduction to the fundamental skills of baseball for the prospective player, coach or spectator. Class meets five hours a week. Three credits.

FUNDAMENTALS OF BASEBALL (INTERMEDIATE) .... PD 4735
Intermediate fundamental skills of baseball for the prospective player, coach or spectator. Class meets five hours a week in gymnasium or baseball field. Three credits.

FUNDAMENTALS OF POWER VOLLEYBALL (BEGINNING) .... PD 1723
Designed to teach fundamental skills and strategy of power volleyball. Emphasis will be on the basic skills of the forearm pass, overhead set, serve and spike. Elementary offense and defense will be taught. Class meets two hours a week. One credit.

FUNDAMENTALS OF POWER VOLLEYBALL (INTERMEDIATE) .... PD 6736
Designed to teach intermediate and advanced skills and strategy of power volleyball. Emphasis will be on individual refinement of volleyball skills. Multiple offenses and advanced defenses will be taught. Class meets two hours a week. One credit.

FALL SPORTS OFFICIATING .......... PD 7168
Knowledge and interpretation of the rules governing football, volleyball, soccer and basketball. Helpful to spectators as well as officials. Class meets three hours a week. Two credits.

SPRING SPORTS OFFICIATING .......... PD 6061
Knowledge and interpretation of the rules governing basketball and baseball. Helpful to spectators as well as officials. Class meets three hours a week. Two credits.
PHYSICAL DEVELOPMENT .......... PD 1472
A brief review of fundamentals and rules with emphasis on playing. Activities consist of softball, tennis, racquetball, volleyball and basketball. Class meets two hours a week. One credit.

RUNNING AWARENESS AND EXERCISE PD 1829
Designed to fulfill students' need to exercise and improve their cardiovascular fitness. The course will cover proper mechanics for running (spring and long distance, breathing techniques, physiology during running), training and exercise benefits, warm-up and warm-down. Class meets two hours a week. One credit.

PHYSICAL FITNESS THROUGH DANCE (BEGINNING) .......... PD 1058
A planned, progressive fitness program designed to improve muscle tone, body contour and flexibility through the utilization of modern dance techniques. The student will learn qualities of movement and be responsible for a creative, interpretive dance. Class meets two hours a week. One credit.

PHYSICAL FITNESS THROUGH DANCE (INTERMEDIATE) .......... PD 4296
An intermediate modern dance course for the student who wants to continue learning from Beginning Physical Fitness Through Dance. Students will compose numerous and varied dances throughout the semester. Class meets two hours a week. One credit.

KARATE (BEGINNING) .......... PD 7279
Introduction to the fundamentals of karate, including history, basic punches, blocks, kicks and self-defense techniques. Class meets two hours a week. One credit.

KARATE (INTERMEDIATE) .......... PD 2728
After learning the formalities and basics in the beginner class, the student puts the basic techniques into routines. The class also covers combination techniques and defense techniques. Class meets two hours a week. One credit.

FENCING .......... PD 6499
Individualized instruction of rules, fundamentals and history of the sport. Class meets two hours a week. One credit.

WEIGHT TRAINING AND PHYSICAL FITNESS (BEGINNING) .......... PD 1020
Involves development of the cardiovascular system as well as overall fitness. Includes identification and function of the muscles and how to plan an overall conditioning program suited for the individual. Class meets two hours a week. One credit.

WEIGHT TRAINING AND PHYSICAL FITNESS (INTERMEDIATE) .......... PD 1025
Involves increased development of the cardiovascular system as well as overall fitness. Includes a plan for a continued overall conditioning program suited for the individual. Class meets two hours a week. One credit.

RACQUETBALL (BEGINNING) .......... PD 1010
A brief history of rules and terminology of racquetball followed by instruction and practice in fundamentals. Class meets two hours a week. One credit.

RACQUETBALL (INTERMEDIATE) .......... PD 1016
Introduction to advanced skills and the strategy of the game of racquetball and various patterns of plays. Class meets two hours a week. One credit.

GOLF .......... PD 3235
Individualized instruction of rules, fundamentals and history of the sport. Includes proper use of clubs and courteses of the game. Class meets two hours a week. One credit.

BOWLING (BEGINNING) .......... PD 1008
Introduction and practice in fundamentals of bowling. Brief history of the sport plus selection, care and proper use of bowling equipment. Class meets two hours a week. One credit.

BOWLING (INTERMEDIATE) .......... PD 1009
Introduction to advanced skills of league bowling and a review of the terminology, etiquette and scoring of bowling. Class meets two hours a week. One credit.

ARCHERY .......... PD 7129
Individualized instruction of rules, fundamentals and history of the sport. Includes survey of the origin of archery and how to select and take care of equipment. Class meets two hours a week. One credit.

GYMNASTICS .......... PD 4536
Individualized instruction in tumbling, side horse, even and uneven parallel bars, balance beam and trampoline for the student with little or no experience. Class meets two hours a week. One credit.
WRESTLING ....................... PD 4257
Individualized instruction of rules, fundamentals and history of the sport. Practice area scheduled by arrangement. One credit.

SOCCER .......................... PD 1012
Introduction to the basics and some of the advanced skills of the game. General picture of tactics commonly used. Class meets two hours a week. One credit.

BALLET (BEGINNING) ............... PD 2655
Introduction to the fundamentals of ballet. Attention given to terminology, skills and participation. Class meets two hours a week. One credit.

BALLET (INTERMEDIATE) ............ PD 7165
Prerequisite: PD 2655 or equivalent. Continuation of Beginning Ballet. Attention given to terminology, more advanced skills and participation. Class meets two hours a week. One credit.

RHYTHMIC AEROBICS (BEGINNING) .... PD 1380
Exercise program of choreographed routines combining motor skills, jogging and dance steps. These exercise routines improve muscle tone and cardiovascular fitness. Class/lab meets two hours a week. One credit.

RHYTHMIC AEROBICS (INTERMEDIATE) .... PD 1440
Exercise program of choreographed routines combining motor skills, jogging and dance steps, done at a higher pace and for a longer period of time than in Rhythmic Aerobics. Exercise routines are vigorous, challenging and fun, and should improve muscle tone and cardiovascular fitness. One hour of lecture and one hour of lab each week. One credit.

PHYSICAL SCIENCE

PHYSICAL SCIENCE .................. NPS 1031
Fundamental concepts and principles of physics, chemistry and astronomy to meet laboratory science requirements for the non-science major. Topics include the metric system, electricity and magnetism, modern physics and chemical bonding. Two hours of lecture and four to six hours of modularly-scheduled lab activity a week. Four credits.

ASTRONOMY ........................ NPS 6070
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 possibilities of life on other planets. Class meets four hours a week plus five nighttime telescope sessions scheduled as weather permits. Four credits.

GENERAL GEOLOGY ............. NPS 4858
A survey of the planet Earth with an emphasis on the processes that have shaped and continue to shape our world. Topics include the interrelations of humans and the environment, the location and economics of minerals, petroleum and other natural resources, and the geology of the moon and Mars. Class meets seven hours a week. Five credits.

PRINCIPLES OF CHEMISTRY .......... NPS 6634
Introduction to the fundamental concepts of chemistry. Emphasis on general concepts of inorganic
chemistry, with sufficient study of organic chemistry to introduce the student to biochemistry. Class meets six hours a week. Five credits.

PRINCIPLES OF ORGANIC CHEMISTRY .......... NPS 2650
Prerequisite: NPS 6634 or NPS 4455. Organic chemistry centered on biochemistry and body function. Biologically important concepts are introduced into the basic functional groups and extended into traditionally biological topics such as lipids, steroids and carbohydrates. Four hours lecture and three hours laboratory each week. Five credits.

GENERAL CHEMISTRY I LECTURE ....... NPS 4515
Prerequisite: Concurrent enrollment in MTH 6079 or equivalent high school math and concurrent enrollment in NPS 4516. Enables student to 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. Class meets four hours a week. Four credits.

GENERAL CHEMISTRY I LAB .......... NPS 4516
Prerequisite: Concurrent enrollment in NPS 4515. The student's understanding of bonding concepts, solutions, gas laws and stoichiometry will be enhanced by laboratory experiments. Class meets three hours a week. One credit.

GENERAL CHEMISTRY II LECTURE ....... NPS 4455
Prerequisites: MTH 6079, NPS 4515, NPS 4516 and enrollment in NPS 4456. A continuation of NPS 4515 to include topics such as kinetics, acid-base chemistry, equilibrium, chemical thermodynamics and electrochemistry. Class meets four hours a week. Four credits.

GENERAL CHEMISTRY II LAB .......... NPS 4456
Prerequisite: NPS 4516 and concurrent enrollment in NPS 4455. The laboratory consists of experiments supportive to General Chemistry II Lecture with emphasis on quantitative techniques. Class meets three hours a week. One credit.

ORGANIC CHEMISTRY I ..................... NPS 2637
Prerequisites: NPS 4455 and 4456. The nomenclature, principles and theories of organic chemistry with emphasis on electronic theories and reaction mechanisms. Laboratory is supportive and emphasizes developing lab techniques and preparation of representative compounds. Class meets nine hours a week. Fall, five credits.

ORGANIC CHEMISTRY II ................. NPS 3657
Prerequisite: NPS 2637. Continuation of Organic Chemistry I. Includes an introduction to organic qualitative analysis. Class meets nine hours a week. Spring, five credits.

GENERAL PHYSICS I ....................... NPS 3308
Prerequisite: MTH 6079 or equivalent. Introductory survey of selected topics in physics including motion, energy, matter, energy, thermodynamics and wave motion. Class meets for four hours of lecture and three hours of lab each week. Fall, five credits.

GENERAL PHYSICS II ..................... NPS 4356
Prerequisite: NPS 3308. Continuation of General Physics I. Subjects include electricity and magnetism, light, atomic and nuclear structure, quantum theory, relativity and particle physics. Class meets for four hours of lecture and three hours of lab each week. Spring, five credits.

ENGINEERING PHYSICS I ............... NPS 5212
Corequisite: MTH 4313. Introduction to physics for science and engineering students. Emphasis is on mathematical approaches to the study of mechanics, wave motion and thermodynamics. Class meets for four hours of lecture and three hours of lab each week. Fall, five credits.

ENGINEERING PHYSICS II .............. NPS 5238
Prerequisite: NPS 5212. Emphasis on electricity and magnetism, light, and topics in modern physics. Class meets for four hours of lecture and three hours of lab each week. Spring, five credits.
INTRODUCTION TO QUANTITATIVE ANALYSIS
Prerequisites: NPS 4515 and 4516. An introduction to concepts of acid-base, chromatography, coulometry, equilibrium, oxidation-reduction and spectrophotometry as they apply to quantitative chemical analysis. Lab consists of supportive experiments designed to introduce the student to modern quantitative experimental techniques. Class meets nine hours a week. Five credits.

SCIENCE PROBLEMS ON THE COMPUTER
Prerequisite: Completion of at least one college-level physical science or life science course. Course covers elementary skills in programming a micro-computer using BASIC language. Techniques are developed for solving various science problems on the computer. Various "output" will be studied in relation to specific needs. One hour lecture, two hours lab each week. Two credits.

MICROCOMPUTER PROGRAMMING WITH EDUCATIONAL APPLICATIONS
Elementary programming skills for the microcomputer will be explained in this course. Also covered will be how to apply these skills to educational situations such as self-paced study programs, quizzes and testing, grading records, cataloging and graphing. Three hours lecture and two hours lab each week. Four credits.

PHYSICAL THERAPY
INTRODUCTION TO PHYSICAL THERAPY
Prerequisite: Pre-enrollment interview with program coordinator. Introduction to sociological principles, practices and concepts with emphasis on groups, culture, personality, society, communication, cities, social institutions, family, religion, government, social change, social control and social progress. It will include field trips to various local physical therapy departments for a practical observation of the specific health field. Two hours of lecture a week. Two credits.

FUNDAMENTALS OF PHYSICAL THERAPY
Prerequisite: NPT 9770. The student will understand basic medical terminology, description of modalities and therapeutic measures used in the physical treatment of various injuries and diseases. Emphasis on departmental organization and orientation to position duties and job opportunities. Through 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. Two hours of lecture and two hours of lab a week. Three credits.

REHABILITATION
Prerequisite: NPT 9771. Introduction to the philosophy underlying rehabilitation, and the theory and principles involved in normal and abnormal amputation and mobility. Emphasis will be on external supports used in teaching activities of daily living with attention to description, demonstration and practice with various appliances and devices necessary to assist the disabled. Two hours of lecture and four hours of lab a week. Four credits.

KINESIOLOGY
Prerequisite: NLS 6540. The student will analyze muscles and their function, biomechanics of human motion and activities of joints, and functions of the musculoskeletal system. Four hours of lecture a week. Four credits.

CLINICAL PATHOLOGY
Corequisites: NPT 9774, 9775, 9777, 9778. The study of general pathology with detailed emphasis on diseases and disease processes. Three hours of lecture a week. Three credits.

THERAPEUTIC MODALITIES
Prerequisite: NPT 9771. Introduction 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 will be assigned to various local hospital physical therapy departments to observe the practical application of therapeutic modalities and will actively participate in the application of specific therapeutic modalities. Three hours of lab and six hours of lecture a week. Five credits.

THERAPEUTIC EXERCISE
Corequisites: NPT 9776, 9777, 9778. The student will be introduced to the theory and principles underlying the use of mechanical appliances and equipment, shoulder wheels, pulleys, traction and exercise devices applicable to various disabilities. Emphasis will be placed on techniques of muscle re-education and sensory stimulation, safety precautions, indications and contraindications for exercise as a treatment technique. Three hours of lecture and four hours of lab a week. Five credits.

CLINICAL EXPERIENCE I
Prerequisites: NPT 9773 and concurrent enrollment in NPT 9775, 9776. The student will receive supervised clinical experience in the observation and practical application of the techniques and procedures covered in all previous courses with emphasis on assisting physical therapist in the treatment procedures in a variety of clinical settings. Nine hours of clinic a week. Three credits.

CLINICAL EXPERIENCE II
Prerequisites: NPT 9774, 9775, 9777, 9778. The student will review practical application of principles learned in the prior didactic semesters. The student also will experience rotating internship in selected hospitals throughout the greater Kansas City area under the guidance of a Registered Physical Therapist. Three hours of clinic a week. Eleven credits.
CLINICAL SEMINAR I .............. NPT 9778
Corequisite: NPT 9775, 9776. The student will participate in discussions conducted by the program coordinator to evaluate the experience and progress of the participants in NPT 9777. One hour of lecture a week. One credit.

CLINICAL SEMINAR II .............. NPT 9780
Corequisite: NPT 9779. The student will participate in formal discussions related to the experience and progress of the participants in the total clinical area with emphasis on review of techniques, procedures and modalities. Two hours of lecture a week. Two credits.

RADIOLOGY

MEDICAL AND RADIOLOGY TERMS . . . . NRD 9801
Prerequisite: Admission to the program. Study of medical terminology with emphasis on the practical application of terms relating to radiology procedures. Specific emphasis on technical terminology. Class meets three hours a week. Three credits.

RADIOLOGIC TECHNOLOGY I ........ NRD 9802
Prerequisite: Admission to the program. Study of radiation biology, radiation protection and monitoring, professional attitudes and applied medical ethics. Major emphasis will be on emergency procedures related to patient care in the Radiology Department. Class meets three hours a week. Three credits.

RADIOLOGIC TECHNOLOGY II ........ NRD 9810
Prerequisites: NLS 6186, NRD 9801. The student will study the disease processes of the body and relate them to examination of the patient in the Radiology Department. Class meets three hours a week. Three credits.

RADIOGRAPHIC EXPOSURES I ........ NRD 9803
Prerequisite: Admission to the program. Covers the principles of radiographic image formation and the factors that affect or control image formation. The student will conduct experiments for reinforcement of the principles covered in this course. Class meets four hours a week. Three credits.

RADIOGRAPHIC EXPOSURES II ........ NRD 9806
Prerequisite: NRD 9803. Covers quality control of radiographic images, technique charts, calibration of equipment, standard exposure systems and factors used for conversion of techniques for variables in the exposure systems. Special techniques used in producing radiographic images also are covered. Class meets four hours a week. Three credits.

PHYSICS OF X-RAY EQUIPMENT ......... NRD 9811
Prerequisites: NPS 3318, NRD 9803, NRD 9806. Application of physics principles to the study of x-ray equipment and other diagnostic imaging devices used in the modern x-ray department. Class meets five hours a week. Four credits.

RADIOGRAPHIC POSITIONING I ....... NRD 9804
Prerequisite: Admission to the program. Study of anatomy and positioning for the abdomen, chest, upper and lower extremities, upper gastrointestinal track, colon, gall bladder/biliary exams and kidney studies. Class meets four hours a week. Three credits.

RADIOGRAPHIC POSITIONING II ....... NRD 9808
Prerequisite: NRD 9804. Covers anatomy and positioning related to the upper and lower extremities, the vertebral column, skull and thorax and includes mammography. Class meets four hours a week. Three credits.

RADIOGRAPHIC POSITIONING III ....... NRD 9809
Prerequisite: NRD 9808. Course covers anatomy and positioning for the skull, sinuses, facial bones and teeth. Emphasis is on special views of the skull. The student also will study methods of positioning the trauma patient. Three credits.

SPECIAL PROCEDURES ................. NRD 8012
Prerequisites: NLS 6186, NRD 9804, NRD 9808, NRD 9809. Study of the anatomy, positioning, equipment and special tasks related to performance of studies of the circulatory, nervous and lymphatic systems. The role of the technologist will be stressed. Class meets three hours a week. Three credits.

CLINICAL TRAINING I ................. NRD 9805
Prerequisite: Admission to the program. The student will receive training in performing basic radiographic examinations and related tasks. The student must demonstrate the ability to perform seven examinations unassisted by the end of the term. Class meets for an average of 20 hours each week. Two credits.

CLINICAL TRAINING II ................. NRD 9807
Prerequisites: NRD 9801, 9802, 9803, 9804, 9805. The student will receive training in performing examinations of the upper extremities, lower extremities, cervical, thoracic and lumbar spine, ribs, skull and mammographic exams. Class meets an average of 20 hours a week. Two credits.
CLINICAL TRAINING III .............. NRD 9815
Prerequisites: NRD 9806, 9807, 9808. Continued training in performing examinations of the ribs, cervical, thoracic and lumbar spine, gall bladder, biliary system and retrograde pyelograms and infusion pyelograms using tomography. Students will be assigned to evening training experiences during the summer months. Class meets an average of 24 hours a week. One credit.

CLINICAL TRAINING IV .............. NRD 9816
Prerequisite: NRD 9815. The student will perform examinations of the skeletal system. Training opportunities in portable radiography, emergency room techniques and supervised fluoroscopy will be provided. Class meets an average of 20 hours a week. Two credits.

CLINICAL TRAINING V .............. NRD 9817
Prerequisites: NRD 9809, 9816. The student will be assigned training experiences in areas of training need. The student will be expected to perform most department routine examinations under limited supervision. Students will work on areas of deficiency and will demonstrate progress in clinical skills. Class meets 20 hours a week. Two credits.

CLINICAL TRAINING VI .............. NRD 9818
Prerequisites: NRD 9810, 9811, 9812, 9817. Students will be assigned extra training in areas of need and be evaluated on their expertise in specialty rotations. Class meets 24 hours a week. One credit.

CLINICAL TRAINING VII .............. NRD 9819
Prerequisites: NRD 9813, 9814, 9818. Clinical training in the fields of nuclear medicine, radiation therapy and ultrasound. Students will be making final preparations to enter the profession as a registered technologist. Assignment will be made to all areas of the department on a rotational basis. Class meets thirty-nine hours a week. Three credits.

DEPARTMENT SEMINAR .............. NRD 9813
Prerequisites: NRD 9810, 9811, 9812, 9817. The student will prepare for the National Registry examination by taking tests and reviewing materials designed to simulate the A.R.R.T. examination. Class meets three hours a week. Three credits.

SPECIALTY TRAINING (ELECTIVE) .............. NRD 9820
Prerequisite: Consent of the instructor. Additional training in one of the following fields: nuclear medicine, ultrasound, radiation therapy, thermography or computer-assisted tomography. Class meets nineteen hours a week. Nine credits.

RADIOLOGY AND ELECTRONIC PROCEDURES .............. NAT 8909
Intensive study and practice in radiological techniques. Positioning, exposure, developing, establishing a technique chart, evaluation of technical errors and studies in contrast radiography. Theory of radiology, types of machines, films and cassettes, and radiation safety. Class meets three hours a week. Two credits.

RECREATIONAL LEADERSHIP

INTRODUCTION TO RECREATIONAL SERVICES .............. PRL 5298
Historical and philosophical foundations of leisure and recreational activities. Emphasis on socioeconomic movements, economic importance of recreation and social institutions which provide recreational services. Class meets three hours a week. Three credits.

SOCIAL RECREATION .............. PRL 2459
Planning, programming and conducting social recreation activities for clubs, churches, schools, playgrounds and recreation centers. Ample opportunity for developing individual strengths and understanding. Class meets three hours a week. Two credits.

OUTDOOR RECREATION .............. PRL 7164
History, development and trends of outdoor recreation, conservation and organized camping. Laboratory work, field trips and development of outdoor skills. Class meets three hours a week. Three credits.

INTRO. TO THERAPEUTIC RECREATION .............. PRL 2571
A basic course in recreation for the ill and handicapped to acquaint the student with the recreational needs of special population groups. Emphasis will be on various types of settings in which therapeutic recreation is available. Appropriate types of activities will be given for different disabilities with both instructor demonstration and class participation. Class meets three hours a week. Three credits.

RECREATIONAL FIELD STUDY .............. PRL 1379
Application and study of the basic skills a recreation leader needs, including observation and actual experience. Emphasis on coordinating classroom knowledge with recreation and therapeutic situations in the community. Class meets for a one-hour weekly seminar. A minimum of 15 hours supervised laboratory experience by arrangement in an area agency, hospital or institution. Three credits.
RESPIRATORY THERAPY

BEGINNING PRINCIPLES OF RESPIRATORY THERAPY . . . . . . . . . . . . . NRT 3370
Prerequisite: Ad m it to the Respiratory Therapy Program. Introduces the student to the field of respiratory therapy and to the hospital world. Involves basic anatomy, physiology, pathophysiology and respiratory therapy techniques necessary to begin giving patient care to pulmonary disease patients. Patient contact will be encountered after the first two or three weeks of introductory material. Lab time also is involved for mastery of patient care skills. Class meets for six hours of lecture and sixteen hours of lab each week. Summer, four credits.

RESPIRATORY THERAPY EQUIPMENT . . . . . . . . . . . . . . . . . . . NRT 3371
Prerequisite: Admission to the Respiratory Therapy Program. Introduces the student to much of the equipment used in providing basic patient care. Includes equipment for oxygen therapy, aerosol therapy, IPPB. A substantial amount of time is spent in the lab to acquire hands on experience with equipment prior to actual use in the patient care setting. Class meets for six hours of lecture and eight hours of lab each week. Summer, four credits.

CARDIOPULMONARY MEDICINE I . . . . NRT 3372
Prerequisite: Admission to the Respiratory Therapy Program. First of three courses lectured by the medical director of the program. An introduction to diagnostic procedures used by the pulmonary physician in evaluating patients with respiratory disease. Also provides information on the pathology of disease states that the student will encounter. Class meets for two hours of lecture each week. Summer, one credit.

CLINICAL CARDIOPULMONARY PHYSIOLOGY . . . . . . . . . . . . . . . . . . . . . . NRT 3373
Prerequisite: Successful completion of summer sequence of respiratory therapy courses. A comprehensive study of the physiology and pathophysiology of the pulmonary system, the cardiovascular system and the renal system as they relate to the practice of respiratory therapy. Fundamental to the understanding of disease processes and provides a rationale for much of the therapy the respiratory therapist provides. Class meets four hours a week. Fall, four credits.

CLINICAL PRACTICE I . . . . . . . . . . . NRT 3374
Prerequisite: Successful completion of summer sequence of respiratory therapy courses. The clinic activities are divided into two quarters. The first eight-week period will concentrate on giving basic care to both adults and pediatric patients as well as learning how to perform arterial punctures and pulmonary function studies. The second eight weeks emphasis will shift toward critical care medicine with treatments being given in the intensive care unit, and introductory work being done with mechanical ventilators. Also during the semester, students will learn to intubate under the guidance of anesthesia personnel and will go on rounds with the medical director of the program. Class meets 24 clinic hours each week. Fall, four credits.

CLINIC TOPICS AND PROCEDURES I . . . NRT 3375
Prerequisite: Successful completion of summer sequence of respiratory therapy courses. A lecture and lab course related to the clinic activities the student is pursuing in giving care to patients. Topics on basic care, emergency care, mechanical ventilators and critical care will be stressed. A pediatric lecture series will run throughout the semester. Class meets for two hours of lecture and three hours of lab each week. Fall, three credits.

CARDIOPULMONARY MEDICINE II . . . NRT 3376
Prerequisite: Successful completion of summer sequence of respiratory therapy courses. A continuation of the series provided by the medical director of the program with emphasis on disease states of the cardiopulmonary system. The pathology, diagnosis and treatment of the various diseases is presented. The role of the respiratory therapist in the medical management of these patients is discussed. Class meets for two hours of lecture a week. Fall, two credits.
RESPIRATORY PHARMACOLOGY ...... NRT 3377
Prerequisite: Successful completion of the fall sequence of respiratory therapy courses. Presents all the pharmacology respiratory therapists provide, plus 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. Class meets for two hours of lecture a week. Spring, two credits.

CLINICAL PRACTICE II ............... NRT 3378
Prerequisite: Successful completion of the fall sequence of respiratory therapy courses. The clinic course is split into two eight-week quarters, with emphasis on critical care of both adults and neonates. Students will spend time in rotations concerned with rehabilitation, department management, intubations and medical rounds. Class meets 24 clinic hours a week. Spring, four credits.

CLINIC TOPICS AND PROCEDURES II ...... NRT 3379
Prerequisite: Successful completion of the fall sequence of respiratory therapy courses. A continuation of lecture and lab activities with emphasis on critical care medicine and more sophisticated aspects of respiratory therapy. Includes sections on medical ethics and department management. Through the semester, a lecture series on neonatology will be presented. Class meets for three hours of lecture and three hours of lab each week. Spring, four credits.

CARDIOPULMONARY MEDICINE III ...... NRT 3380
Prerequisite: Successful completion of the fall sequence of respiratory therapy courses. A continuation of the medical director's discussion of pulmonary disease states, their pathology and their treatment. Class meets two hours a week. Spring, two credits.

SECRETARIAL CAREERS

Typing I: Short Course ............... BSC 1960
Designed to acquaint the student with the keyboard and offer a variety of experiences in the basic skills of typing. Class/lab meets four hours a week. Two credits.

Beginning Typing ..................... BSC 1263
Mastery of the keyboard and machine techniques. Instruction in personal and business letters, outlines, manuscripts, tabulation and centering. Individualized instruction and scheduled use of secretarial laboratory. Class meets three hours a week. Students should schedule two hours of lab a week. Three credits.

Intermediate Typing ................. BSC 2376
Prerequisite: BSC 1263. Emphasis on speed and accuracy in typing business letters, memoranda, tabulated reports and financial reports. Periodic production and performance tests. Individualized instruction and scheduled use of secretarial laboratory. Class meets three hours a week. Students should schedule two hours of lab a week. Three credits.

Production Typing ................. BSC 7633
Prerequisite: BSC 2376. Development of high degree of proficiency in production typing. Emphasis on typing in specialized offices such as medical, legal, governmental. Individualized instruction and scheduled use of secretarial laboratory. Class meets three hours a week. Lab meets two hours a week. Three credits.

Automatic Typewriters .......... BSC 5188
Prerequisite: BSC 2376. Automatic Typewriters offers extensive use of the IBM Memory and Mag Card typewriters. The students will develop a high degree of proficiency in the operation of these two machines. Class meets two hours a week. Students will schedule two hours a week lab time. Two credits.

Shorthand Refresher: Short Course .... BSC 3018
Review of theory and vocabulary. Emphasis on increasing speed in the writing of shorthand. Class meets one hour a week. One credit.

Shorthand I ......................... BSC 1519
Prerequisite: BSC 1263 or concurrent enrollment. Beginning course of intensive study of shorthand theory and how to write simple unreviewed material in shorthand at a speed of 50 to 60 words a minute. Class is instructor-directed but includes individualized use of tapes and materials. Class meets three hours a week with a required lab two hours a week. Three credits.

Shorthand II ......................... BSC 4590
Prerequisites: BSC 1263 and BSC 1519. Designed for students with prior limited experience with shorthand. Review of shorthand theory, transcription techniques, spelling, punctuation and grammar through use of tapes and materials. Class meets three hours a week with a required lab two hours a week. Three credits.
DICTATION AND TRANSCRIPTION ....... BSC 3630
Prerequisite: BSC 4590 and 2376. Emphasis on increased speed and accuracy in writing shorthand from dictated material and transcribing notes. Class is instructor-directed but includes individualized materials. Student works at own ability level. Class meets three hours a week with a required lab two hours a week. Three credits.

MEDICAL TRANSCRIPTION .......... BSC 4715
Prerequisite: BSC 2376. A course designed to develop transcription techniques to create accurate medical records. Contains six study units, individualized instruction with periodic exams and transcription tests. Class meets three hours a week with a required lab two hours a week. Three credits.

LEGAL SECRETARY ............... BSC 2267
Topics recommended by the National Association of Legal Secretaries. General overview of the field of law as it applies to a legal secretary. Students wishing to prepare for the PLS examination should consult with the instructor prior to enrollment. Class meets two hours a week. Two credits.

KEYBOARDING ................... BSC 4137
This course is designed for data processing students who cannot touch type as well as for employees in such areas as medicine, law, sales, travel and education who need keyboarding skills. Accuracy at the keyboard in alpha, numeric and symbol keys is stressed. Class/lab meets four hours a week for six weeks. One credit.

STENOSCRIPT SPEEDWRITING SHORTHAND .... BSC 3325
This course is designed especially for secretaries who need to learn dictation skills in a short period of time and for students who must take notes in class. Students in the course will begin taking dictation using abbreviated longhand after the second session. It is possible to work up to 70-80 words per minute by the end of the course. Class will include theory, practice, speedbuilding and transcription. Three hours of lecture, two hours lab each week. Three credits.

MACHINE TRANSCRIPTION ......... BSC 5189
Prerequisite: BSC 2376. Extensive use of dictation equipment learning transcription skills needed for efficient transcribing of all business letters, memos and technical reports. Language skills will be developed through correct word division, punctuation and number transcription exercises. Special topics such as news releases, agenda and minutes, medical and legal terminology as well as other specialized fields will be studied. Class meets three hours a week. Students will schedule two hours a week lab time. Three credits.

ELECTRONIC CALCULATORS ......... BSC 5190
The student will apply the fundamental operations of arithmetic and basic applications to business problems on electronic printing calculators. This functional knowledge includes using proper techniques in the basic operation, interpreting the answers and recording the answers thus enabling the student to develop a high degree of proficiency in touch operation, speed and accuracy; performing the basic functions; and solving application problems. Class meets one hour a week, and one hour of lab should be scheduled. One credit.

RECORDS MANAGEMENT .......... BSC 1342
Alphabetic, numeric, subject and geographic filing systems. Provides a foundation of general office routines and efficient methods and systems of storing and retrieving information. Includes survey of various types of office filing equipment. Class meets three hours a week. Three credits.

SECRETARIAL PROCEDURES I .... BSC 1272
Prerequisite: BSC 2376 or concurrent enrollment. Designed to develop a secretarial personality and occupational intelligence through an introduction to all phases of an office situation. Topics include the secretarial profession; word processing; responsibilities for written communications; transmittal services; records management; travel and conferences; collecting, processing and presenting business data; financial and legal work; and the professional future. Class meets three hours a week. Three credits.
SECRETARIAL PROCEDURES II ........... BSC 2317
Prerequisite: BSC 1272. Application of theory presented in Secretarial Procedures I using simulated office experience and projects. Content areas: meetings and conferences, travel arrangements, letter writing, supervision of others, reproduction equipment and services, seeking and terminating employment. The student may choose to follow a medical, legal or general presentation of secretarial procedures. Course includes scheduled use of the secretarial laboratory. Class meets three hours a week. Three credits.

SECRETARIAL FIELD STUDY I ........... BSC 3857
Supervised student work experience in an approved office situation. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Two or three credits.

SECRETARIAL FIELD STUDY II ........... BSC 3858
Supervised work experience in an approved office situation. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Two or three credits.

SECRETARIAL FIELD STUDY III ........... BSC 3859
Supervised work experience in an approved office situation. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Two or three credits.

SECRETARIAL FIELD STUDY IV ........... BSC 3860
Supervised work experience in an approved office situation. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Two or three credits.

SECRETARIAL FIELD STUDY V ........... BSC 3861
Supervised work experience in an approved office situation. Class meets two hours a week. A minimum of 15 hours on-the-job training a week by arrangement. Two or three credits.

SMALL ANIMAL HEALTH

INTRODUCTION TO ANIMAL TECHNOLOGY ........... NAT 4894
Orientation to career opportunities available in animal health technology. Professional ethics, public relations, psychological adjustment of the student to physical treatment and emotional involvement in the treatment and care of animals. Emphasis on understanding the justification and purposes for euthanasia, venipuncture, injections, animal sterilization and the development of appropriate attitudes toward research animals. Class meets two hours a week. Two credits.

SANITATION AND ANIMAL CARE ........... NAT 1895
Cleaning and sanitation, personal hygiene, vermin recognition, control and cleaning of cages and equipment, general care and supervision of hospital patients or colonies, preparation of diet, proper feeding of animals, preparation of work routines and standard daily operating procedures. Class meets three hours a week. Two credits.

CLINICAL MATH ......................... NAT 7896
Metric systems and conversion units. Apothecaries' equivalents and vocabulary. Preparation of solutions, vocabulary, strengths, procedures and computations. Drug administering, calculating and measuring dosages. Class meets one hour a week. One credit.

PRINCIPLES OF ANIMAL SCIENCE I ........ NAT 6897
Principles of handling and management of animals, nutrition, housing and sanitation. Emphasis on animal physiology and body responses. Introduction to anesthesia and management of hospital cases. Methods of treatment, restraint, determination of body temperature, pulse and respiration, bathing and grooming. Class meets four hours a week. Three credits.

PRINCIPLES OF ANIMAL SCIENCE II .......... NAT 3899
Techniques of obtaining animal samples for laboratory analysis. Surgery preparations and anesthetic management of animals. Emphasis on effects of anesthetics and physiology of body systems not covered in Animal Science I. Class meets four hours a week. Three credits.

CLINICAL PATHOLOGICAL TECHNIQUES I .......... NAT 2901
Emphasis on urinalysis, blood analysis, fecal analysis and preparation of smears and staining techniques. Introduction to hematology, differentiation of blood cells and serum chemistries. Class meets seven hours a week. Four credits.

CLINICAL PATHOLOGICAL TECHNIQUES II .......... NAT 6004
Advanced work in hematology and serum chemistries. Emphasis on evaluation of laboratory specimens and basis of clinical chemistries. Class meets eight hours a week. Five credits.

ANIMAL HEALTH INTERNSHIP ................... NAT 1902
Prerequisite: Two semesters of first-year animal health course. Supervised intensive clinical study under the direction of a cooperating veterinarian to provide actual work experience. 420 work hours. Six credits.

ANIMAL HOSPITAL TECHNOLOGY I ........... NAT 5903
Preparation and administration of hypodermic injections, administration of vaccines, colonic irrigations, application and changing of wound dressings, preparation and administration of parental fluids, substances by the oral route, intrauterine infusions, intramammary gland infusions, and other mastitis
therapy. Administration of anesthetics and assisting surgeon during operations. Techniques of radiographic film processes. Class meets five hours a week. Three credits.

ANIMAL HOSPITAL TECHNOLOGY II ............. NAT 6906
Continuation of Animal Hospital Technology I. Study of orthopedic procedures, electrocardiography, pharmacology and anesthesia. Laboratory exercises in surgical assisting, blood transfusions, anesthetic emergencies, bandaging and fluid therapy. Class meets five hours a week. Three credits.

ANIMAL TECHNOLOGY ANATOMY .. NAT 4904
Basic principles of systemic anatomy with integration of physiology, pharmacology, pathology and parasitology within the framework of animal body systems. Class meets seven hours a week. Five credits.

LABORATORY ANIMAL TECHNOLOGY ............ NAT 3905
Prerequisites: NAT 6397, 8389, 9301. To equip the student with the capabilities of handling a supervisory position in a laboratory animal colony. Class meets three hours a week. Two credits.

LARGE ANIMAL TECHNOLOGY ............. NAT 6006
Prerequisites: NAT 6397 and NAT 8389. Large animal handling and restraint. Oral and parenteral medications, blood collection, sanitation and housing. Study of diseases affecting large animals and preventive medicine. Class meets six hours a week. Four credits.

RADIOLOGY AND ELECTRONIC PROCEDURES ............ NAT 8909
Intensive study and practice in radiological techniques. Positioning, exposure, developing, establishing a technique chart, evaluation of technical errors and studies in contrast radiography. Theory of radiology, types of machines, films and cassettes, radiation safety. Class meets three hours a week. Two credits.

SMALL ENGINE TECHNOLOGY

SMALL ENGINE ELECTRICAL SYSTEMS TSE 7241
Prerequisite: TSE 7240. This course emphasizes the types of current and the relationship between electricity and magnetism; types of electrical circuits and the ability to solve problems using ohm's law; the identification of components and the purpose of the ignition system; testing the coil, condenser, armature and flywheel magnets; servicing the ignition system; and testing and servicing the charging and starting system. Two hours of lecture and three hours of lab each week. Three credits.

SOCIAL SCIENCES

INTRODUCTION TO PSYCHOLOGY ....... SS 1068
Introduction to the basic concepts and methods of general psychology. Covers the brain, consciousness, sensation and perception, motivation and emotion, learning and memory, maturation and development, normal and abnormal personality, and social psychology. The course is a prerequisite for other courses in psychology. Class meets three hours a week. Three credits.

SOCIAL PSYCHOLOGY ................. SS 5663
Prerequisite: SS 1068. An introduction to the psychology of social behavior. A systematic attempt to understand how the thoughts, feelings and behavior of individuals are influenced by the actual, imagined or implied presence of others. Topics include methodology, attitude and attitude change, aggression, leadership, affiliation, obedience and conformity. Class meets three hours a week. Three credits.
TRANSPERSONAL PSYCHOLOGY ........ SS 9022
Prerequisite: SS 1068. An introduction to an emerging force in psychology that deals with ultimate human potentialities and capacities beyond our usual state of consciousness. These experiences are not adequately considered in psychoanalytic, behavioristic or humanistic psychology. Covers assumptions, consciousness, mystical experiences, spirit, interpersonal encounter, extrasensory phenomena, ultimate values and eternal meanings. Class meets three hours a week. Three credits.

EDUCATIONAL PSYCHOLOGY ........ SS 3148
Prerequisite: SS 1068. Application of principles of psychology to problems in learning-teaching situations. Study of behavior, skills, memory, generalization of learning, assessment and measurement of learning, and intelligence. Practicum in a structured setting is required. Class meets three hours a week. Three credits.

PERSONALITY AND ADJUSTMENT .... SS 4639
Prerequisite: SS 1068. A study of three theoretical systems in psychology: Freudian, behavioral and humanistic. Emphasis on the material each system offers for adjustment to everyday problems. Topics include determinants of behavior, relating to others, personal growth process, enhancement of growth, assertiveness, aggression, stress reduction, relaxation, sexism, sex roles, racism and career development. Class meets three hours a week. Three credits.

HUMAN POTENTIAL SEMINAR ........ SS 2002
A structured, positive group experience designed to increase self-affirmation, self-motivation, self-determination and empathetic regard for others. Includes recall of peak and mini-peak experiences, acknowledgment and analysis of achieving satisfaction and success, clarification of personal values, acknowledgment of personal strengths and long-range goal setting. Regular attendance is imperative. Class meets three hours a week. Three credits.

CAREER/LIFE PLANNING ............ SS 7227
A systematic approach to career/life planning. Focuses on a process enabling individuals to make occupational decisions at any point in their lives. Class meets three hours a week. Three credits.

MARRIAGE AND THE FAMILY ........ SS 5716
An examination of the institutions of marriage and family in the United States. Emphasis on human sexuality, changing roles, family formation, socialization, domestic conflict, interaction among family members and marriage partners, and the relationships between these institutions and society. Class meets three hours a week. Three credits.

SOCIOLOGY ......................... SS 3404
An overview of social life in America and the global community today. Covers group structure and processes, social interaction, and an examination of major institutions. Theories and methods of study are introduced, as well as the uses of social research. Class meets three hours a week. Three credits.

CHILD DEVELOPMENT .............. SS 3546
Prerequisite: SS 1068. A comprehensive chronological account of human psychological and physical development from conception through adolescence. The course integrates genetic, biological, physiological and anthropological influences with the psychological process. Explores determinants of development from both hereditary and environmental perspectives. Twenty hours of practicum in a structured setting where children are present is required. Class meets three hours a week. Three credits.

SOCIAL WELFARE ................. SS 4122
Introduction to social welfare and its relationship with other social systems in America. Considers the social, economic and political factors that foster inequality and explores the various aims, approaches and forms of social welfare as a response to social deprivation. Class meets three times a week. Three credits.
STATE AND LOCAL GOVERNMENT .......... SS 2678
Survey of theories and practices of state and local governments throughout the United States. The Kansas models in particular will be studied. Major topics are structure of these governments, intergovernmental relations, types of services, the taxing and budgeting process, the role of the citizen, and possible reforms. An emphasis on speakers, field trips and applied projects makes this course a "how-to" format for the average citizen. Class meets three hours a week. Three credits.

AMERICAN NATIONAL GOVERNMENT SS 3138
Examination of the theoretical, political and administrative aspects of American government. Topics studied include the Constitution; political parties; the executive, legislative and judicial branches; and public policy formulation and implementation. Class meets three hours a week. Three credits.

INTRODUCTION TO COMPARATIVE GOVERNMENT ........ SS 5852
Introduction to the comparative study of political systems. Ideology, socio-economic institutions and decision-making structures will be examined in competitive and non-competitive political systems; industrially-developed and industrializing nations; and Western and non-Western nations. Both contemporary and non-contemporary systems will be considered. Class meets three hours a week. Three credits.

SOCIAL WORK AND SOCIAL SERVICES .......... SS 4123
Introduction to the social work profession for students considering the field as a career and wanting to learn about social work and its activities. Course covers the origins, values, skills, fields of service and current issues in the social work profession. Class meets three times a week. Three credits.

SOCIAL PROBLEMS ............... SS 3428
Selected social problems—from crime to drug abuse—are analyzed from a variety of sociological and cultural perspectives. Emphasizes the history and development of the problems and considers solutions. Class meets three hours a week. Three credits.

PHYSICAL ANTHROPOLOGY .... SS 3721
Study of basic concepts and research areas in physical anthropology. Examines archeology, human variation, physical evolution, primate societies and the emergence of human society. Application to cross-disciplinary topics of general and career interest. Class meets three hours a week. Three credits.

CULTURAL ANTHROPOLOGY .......... SS 1029
Study of peoples and cultures around the world. The political, economic, religious, family and social arrangements of major geographic regions will be surveyed. Examines hunters, tribesmen, peasants and industrial populations in historical context and in their contemporary settings. Class meets three hours a week. Three credits.

POLITICAL SCIENCE .............. SS 1456
An introduction to the ideas and institutions that have shaped 20th century politics. Class meets three hours a week. Three credits.

INTERNATIONAL RELATIONS .......... SS 2808
Study of the interaction of nation-states and factors which affect international relationships. The role of power, law and ideology, and the effectiveness of international organizations, private diplomacy, collective security and war are examined. Current topics in international politics are used as case studies. Class meets three hours a week. Three credits.
U.S. HISTORY TO 1877 .................. SS 1055
This survey course in U.S. history emphasizes the study of 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 Constitution, the Federalist Era, expansion of the Republic during the mid-19th century and the Civil War and Reconstruction. Class meets three hours a week. Three credits.

U.S. HISTORY SINCE 1877 ............... SS 2000
This survey course in U.S. history emphasizes the study of developments and trends in American society from the 1870s to the mid-20th century. Topics include the Reconstruction Era, Industrialization, Immigration, Reform Movements, the two World Wars and Foreign Policy. Emphasis is on analysis and interpretation of these developments. Class meets three hours a week. Three credits.

MODERN RUSSIAN HISTORY .......... SS 4087
This is a survey of the history, culture, foreign policy, politics and socio-economic events in Russia from the time of Peter the Great through today. Three hours lecture each week. Three credits.

EUROPEAN HISTORY FROM 1750 ...... SS 9922
Survey of the major historical trends in Europe from the period of the Industrial Revolution. Topics will include industrialization, nationalism and the two World Wars. Class meets three hours a week. Three credits.

WESTERN CIVILIZATION: READINGS AND DISCUSSION I ................. SS 5500
Major ideas in western civilization dealing with our relationship to the environment and our speculations on the nature of God. Emphasis is placed on out-of-class reading by the students with small group discussions arranged five to seven times during the semester. Three credits.

WESTERN CIVILIZATION: READINGS AND DISCUSSION II ................... SS 2006
Covers major ideas in western civilization dealing with social, economic, political and ethical relations. Emphasis is placed on out-of-class reading by the students with small group discussions arranged five to seven times during the semester. Three credits.

GREAT DECISIONS I: ISSUES IN U.S. FOREIGN POLICY ................... SS 3656
In this course on current issues in international politics, students will review the history of and U.S. policy options for selected problems. Topics will include current political and social issues and will vary from year to year. Class meets one hour each week. One credit.

APPLIED PSYCHOLOGY ................. SS 5191
Emphasis in this course is on how students can use psychological principles to better understand their own experiences and those of other people. Topics include recent popular approaches to psychological problems, behavior management principles and a survey of the student's view of self, values and goals. Class meets three hours each week. Three credits.

SPEECH AND DEBATE
PUBLIC SPEAKING ..................... CSP 4130
A fundamental speech course with emphasis on speech organization, development of ideas, audience analysis and delivery. Students will deliver informative and persuasive speeches in the impromptu, extemporaneous and manuscript styles. Class meets three hours a week. Three credits.

INTERPERSONAL COMMUNICATION .......... CSP 4950
A basic speech course dealing with the oral communications process through the study of interpersonal relationships. Practical principles of effective speech communication in one-to-one and small group relationships are studied and applied in a variety of learning games and situations. (Individualized talks may be given but everyday communication is stressed.) Class meets three hours a week. Three credits.

GROUP DISCUSSION ..................... CSP 1150
Study of communication within small groups emphasizing the experiences and principles necessary for developing effective group dynamics and leadership skills. A variety of experiential mechanisms are employed. Class meets three hours each week. Three credits.
ELEMENTARY DEBATE .................. CSP 5545
Introduction to theories of argumentation and debate leading to participation in intercollegiate debate. Students will attend two to eight weekend debate tournaments a semester. Class meets three hours a week. Two credits.

INTERMEDIATE DEBATE I ............... CSP 2162
Prerequisite: CSP 5545. Continuation of argumentation and debate theories. Participation in intercollegiate debate required. Students will attend two to eight weekend debate tournaments a semester. Class meets three hours a week. Two credits.

INTERMEDIATE DEBATE II ............. CSP 1001
Prerequisite: CSP 2162. Comprehensive review of theories of argumentation and debate. Increased emphasis on intercollegiate debate. Students will attend two to eight weekend debate tournaments a semester. Class meets three hours a week. Two credits.

ADVANCED DEBATE ..................... CSP 6651
Prerequisite: CSP 1001. Emphasis on participation in senior level intercollegiate debate. Students will attend two to eight weekend debate tournaments a semester. Class meets three hours a week. Two credits.

THEATER

INTRODUCTION TO THEATER ........... CDR 1809
An exposure to the theatrical experience for insight and appreciation. Great plays will be read. Television, film and live theater presentations will be viewed in performance. Class discussions of theater practices, dramatic structure and history of the theater will aim toward understanding and enjoyment of the art. Class meets three hours a week. Three credits.

IMPROVISATION FOR THEATER ........... CDR 5001
Introduction to theater improvisation, emphasizing creative stage activities not requiring a written script. Class meets one hour a week. One credit.

ACTING I .................................... CDR 3311
Fundamentals of acting. Character analysis; relation of the role to the play; techniques and practice in posture, movement, voice and projection. Projects in actual stage performance and on videotape for broadcast. Class meets three hours a week, plus modular scheduling of rehearsals, TV studio performances and stage performances for classes. Three credits.

ACTING II ................................... CDR 5316
Prerequisite: CDR 3311. Continuation of Acting I. Emphasis on character analysis and development, with corresponding responsibility of actors for their own creativity. Projects in actual stage performance and on videotape for broadcast. Class meets three hours a week, plus modular scheduling of rehearsals, TV studio performances and stage performances for classes. Three credits.

CHILDREN'S THEATER I ............... CDR 3407
Allows students with no experience to explore children's theater. Areas studied include the difference between theater for and by children, and the adaptation of various forms of children's literature. Presentation of programs to area grade school children will be an integral part of the program. Class meets three hours a week, plus modular scheduling of rehearsals and performances. Three credits.

CHILDREN'S THEATER II ............... CDR 3408
Prerequisite: CDR 3407. For students with experience in performing for children. This course provides an opportunity for continued involvement in children's theater. Students will explore traditional areas such as adapting plays and such techniques as mime, puppetry, improvisation and choral readings. Students will prepare material for their own selection and adapt it to the needs of the class and of the children for whom it is to be performed. Performances will be given for area grade school children. Class meets three hours a week, plus modular scheduling of rehearsals and performances. Three credits.

ORAL INTERPRETATION ............... CDR 2582
A basic course in the study of literature through oral communication. Emphasis on analyzing and performing prose, poetry and dramatic literature. Students will give public performances or compete in tournaments. Class meets three hours a week. Three credits.

THE SHAKESPEARE PLAYS ............... CDR 5588
An introduction to the plays of Shakespeare through reading and viewing selected plays on television. Historical background of England will be examined. Three credits.

URBAN AGRI-QIOSINESS

INTRODUCTION TO URBAN AGRI-BUSINESS .......... NUA 6888
Job opportunities and careers in horticulture. Class meets one hour a week. One credit.
THEORY AND PRACTICE OF HORTICULTURE I
NUA 8887
Principles of plant classification, structure, photosynthesis, growth and development. The nature and properties of soils related to plant growth. Three hours of lecture and four hours of lab a week. Five credits.

THEORY AND PRACTICE OF HORTICULTURE II
NUA 3889
Principles and practices of pruning and training plants. Plant protection using an integrated pest management approach. Identification of diseases, insects, mites, weeds, physiological diseases and methods of control. Three hours of lecture and four hours of lab a week. Five credits.

LANDSCAPE HORTICULTURE .. NUA 2930
Prerequisite: NUA 8887 and NUA 3889. Principles of planning, producing, setting out and maintaining ornamental plantings of trees, vines, ground covers, perennials, turf and annuals. Class meets four hours a week. Three credits.

PLANT MATERIALS I ............. NUA 2891
Prerequisites: NUA 8887 and NUA 3889. Perennials, annuals and conifers for landscape planting. Class meets four hours a week. Three credits.

PLANT MATERIALS II .......... NUA 8893
Prerequisites: NUA 8887 and NUA 3889. Identification, uses and abuses of deciduous trees and shrubs as well as evergreens and woody vines in landscaping. Class meets four hours a week. Three credits.

PRINCIPLES OF SUPERVISION .... NUA 9886
Responsibilities of supervisors. Organization, duties, human relations, grievances, training, rating, promotion, quality control and management-employee relations. Class meets three hours a week. Three credits.

GROUNDSTABILITATIONS AND MAINTENANCE ............ NUA 4007
Prerequisites: NUA 8887 and NUA 3889. Arboriculture and turf grass management. Maintenance of trees. Establishment and maintenance of turf. Class meets four hours a week. Three credits.

COORDINATED WORK EXPERIENCE I ............. NUA 5890
Prerequisite: Approval of coordinator. On-the-job training in a field directly related to the Urban Agribusiness Program. Fifteen hours a week. Three credits.

COORDINATED WORK EXPERIENCE II ............ NUA 7892
Prerequisite: NUA 5890. On-the-job training in a field directly related to the Urban Agribusiness Program. Fifteen hours a week. Three credits.

SPECIAL TOPICS IN HORTICULTURE I ............. NUA 8937
Prerequisites: NUA 8887 and NUA 3889. Special topics in the areas of arboriculture, floricultural crop production, fruit and nut crop production, greenhouse construction, nursery management, plant propagation, supervision of golf course management, and vegetable crop ecology. Class meets one to three hours a week. One to three credits.

SPECIAL TOPICS IN HORTICULTURE II ............. NUA 2938
Prerequisites: NUA 8887 and NUA 3889. Special topics in the areas of arboriculture, floricultural crop production, fruit and nut crop production, greenhouse construction, nursery management, plant propagation, supervision of golf course management, and vegetable crop ecology. Class meets one to three hours a week. One to three credits.

SPECIAL TOPICS IN HORTICULTURE III ............. NUA 6009
Prerequisites: NUA 8887 and NUA 3889. Special topics in the areas of arboriculture, floricultural crop production, fruit and nut crop production, greenhouse construction, nursery management, plant propagation, supervision of golf course management, and vegetable crop ecology. Class meets one to three hours a week. One to three credits.
Student
and
Instructional
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STUDENT AND INSTRUCTIONAL SERVICES

Counseling Center

JCCC’s counseling staff is on hand to help you with academic, career or personal problems. You may see a counselor on a walk-in basis or by appointment. Here is what the Counseling Center has to offer:

• Career planning and exploration assistance: Are you undecided about a career? Or do you need help in pursuing the career you have chosen? The Counseling Center’s interest tests and educational information can give you insight into yourself and into career possibilities and strategies.

• Information about JCCC academic and career programs: A counselor can answer your questions about JCCC’s academic and career programs and will help you develop a program plan.

• Current transfer information: If you are planning to transfer to a four-year institution, come to the Center before you enroll in courses at JCCC. A counselor can explain which courses will transfer and which courses are recommended by the institution you plan to attend.

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

• Orientation to the College: If you are new to JCCC, getting around the College may be difficult at first. A Counseling Center orientation session may help you get better acquainted. Individual and group sessions are available.

Adults Unlimited Program

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

Testing/Assessment Center

The center: provides a wide variety of testing services to you and the community including new student assessment testing; administration of standardized examinations (CLEP, PEP, ACT, GED and Vocational Interest Inventories); instructional make-up exams; credit by examination; and correspondence/TV course testing. The Testing/Assessment Center also coordinates the experience-based education process through which you can gain credit for your life experiences. For more information, contact the Testing/Assessment Center.

Career Planning and Placement Center

Career education, individual and group career planning and information on more than 20,000 occupations are among the services available through the center. Hundreds of current job openings are listed and extensive community resource files are available. You can receive help in doing research for classroom assignments and on topics related to career/life planning and job hunting. Workshops and individual appointments are available throughout the year. Stop by the center for an appointment.

GED Program

If you plan to obtain a high school equivalency certificate by taking the General Educational Development Test (GED), contact the Testing/Assessment Center for details. If you are ready now to take the GED Test, the Testing/Assessment Center will arrange for you to complete the necessary application forms. The center also will schedule a testing appointment for you after you have received your GED test admission notice.

Help in preparing for the GED Test is available at no charge through a variety of classes including twelve-week, eight-week and six-week classes and through individual instruction.

How do you decide if you need help in preparing? The official GED Practice Test is available through the Testing/Assessment Center to help you decide if you’re ready to take the GED Test. It will help you identify areas of strength and weakness and determine whether you need more study before you take the test.
Learning Center
The Learning Center will help you develop basic skills in reading, vocabulary and other areas through individualized instruction, small classes and the Tutor Exchange.
- **Individualized instruction** consists of a self-paced program focusing on improving your skills in reading comprehension and rate, spelling, vocabulary, grammar, mathematics and study methods. You also may study medical terminology and prepare for college-level studies in algebra and chemistry.
- **Tutor Exchange** is a list of tutors available to help you develop specific skills. See the receptionist at the Learning Center for details.

Writing Center
Need help in writing an essay, research paper, journal, business letter, resume, book report or other assignment? Come to the Writing Center. Instructors and student tutors are on hand to help you solve specific grammar, spelling and word usage problems. Contact the Writing Center to make an appointment.

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 fall, spring and summer.

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.

Hearing Impaired Program
The Hearing Impaired Program at JCCC offers credit and non-credit opportunities which prepare hearing impaired students to enter the mainstream of regular career and academic programs at JCCC.

Services available through this program include support for admission and orientation and supportive services such as notetaking, interpreting and counseling. A variety of courses is available each semester including speech therapy, manual communications and the fundamentals of math and English.

In addition, the program makes an effort to inform the community and others throughout Kansas how to better deal with the hearing-impaired population. For more information, contact the Special Services Division.

Gallaudet College Extension Center
JCCC established the Gallaudet College Extension Center in cooperation with Gallaudet College in Washington, D.C. - the world's only four-year liberal arts college for the deaf.

The Center serves a five-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 Special Services Division.

Child Play Center
Need a place for your child to stay while you're on campus for class? Try the Child Play Center, a child care service designed especially for JCCC students. Our qualified staff provides planned activities and creative play for your child. The fee is $1 an hour per child for reserved time or $1.50 per hour for drop-in time. In order to meet with Kansas State regulations, enrollment is limited to children at least 2½ years of age and toilet trained up through age 8. You are encouraged to enroll early as there is a maximum capacity for enrollment met on a first-come, first-served basis.

Dental Hygiene Clinic
You and your family may have your teeth checked, 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 the services and show you how to care for your teeth in the future. Call the Clinic to make an appointment.
Student Activities Program

The JCCC Student Activities Program brings you year-round cultural, social and recreational activities, sponsored by the Student Activities Office in cooperation with the Student Assembly and the Campus Activities Board, two volunteer student government organizations. Activities you can expect each year include the Friday Cinema Series, Captioned Films for the Deaf Series, live entertainment in the College Commons, guest lecturers, film festivals and FoolCon, the regional science fiction/fantasy convention. Also watch for special ski trips, canoe trips and evenings at local dinner theatres.

In addition to these special events, you may wish to join a club—or form your own. Some clubs are vocationally-oriented such as the Hospitality Management Club and the Junior American Dental Hygienists Association of JCCC. Other clubs are organized around special interests, including the inter-denominational fellowship club, science fiction-fantasy club and political party organizations.

Student activities will give you the chance to develop your leadership skills and may stimulate your interest in a particular class or program. They also will give you the opportunity to interact with staff and students in a friendly, relaxed atmosphere.

For complete information on student activities, contact the director of Student Activities.

Athletics

Men compete in baseball, tennis, basketball, golf, soccer, track and wrestling at JCCC. Women may take part in tennis, volleyball, basketball, softball 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. You must meet NJCAA and conference eligibility rules to compete in intercollegiate activities.

JCCC also offers a full range of intramural activities which enable you to develop your skills and make friends during your leisure time.

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 are on hand to assist you in finding and using the resources.

Currently, the library houses more than 45,000 books, 480 current periodicals, 180,000 documents on microfiche and hundreds of slides, videotapes and audio recordings. A computer maintains a catalog of these materials.

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.

You must use reference books, most audio-visual materials and all magazines and newspapers in the library. You may use the coin-operated photocopier if you need to make copies.
Usually books are due two weeks from the Monday following the day you check them out. This means you may keep books from two to three weeks. You will be charged 10 cents a day for each item you keep out past the due date. The maximum fee you may be charged is the cost of the book or $5, whichever is greater. If you lose a book, you will be charged the cost of the book plus a $2 service charge.

Sometimes your instructor may place materials on reserve and specify a loan period. You will be charged 25 cents an hour on each item you keep out past the time it is due, or $1, whichever is less.

Your transcripts or grades will not be released until you pay all library fees.

Parking
Parking is free for all JCCC students. You do not have to register your vehicle. Parking lots are marked with signs directing you to the designated parking areas. You may not park in the handicapped student's Lots 3, 6 and 10 unless you have a permit.

Handicapped Parking
If you are permanently or temporarily disabled, you may obtain a parking permit from the Special Services Office. This permit will allow you to park in designated spaces on campus. A physician's certification may be required to receive this permit.

Motorcycles and motorscooters
If you are riding a motorcycle or motorscooter, you are expected to comply with all parking and traffic regulations.

Bicycle racks
Racks are available throughout the campus. You do not need to register your bicycle.

Emergency parking or loading
Special permits are available at the Switchboard.

Handicapped Lot Violation
Your vehicle will be immobilized or towed after you receive two citations for parking in a handicapped lot without a permit, Monday through Saturday, 7 a.m. to 9 p.m. You will be charged $10 for removal of the immobilizer.

Immobilization or towing
Your vehicle will be immobilized or towed away if:
1. it is parked in a handicapped parking lot or a loading area without a permit;
2. you refuse to move your vehicle after a security officer requests you do so;
3. it is blocking a dock or sidewalk or is parked on the grass;
4. you park your car or truck in the motorcycle area.

Accidents
If you are 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 you for any conduct which is detrimental to the best interests of the College. These following violations 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;
- substantially infringing on or invading the rights of others;
- 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. You 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. It will make every effort to keep you in school and to help you fulfill your objectives.

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

How to file a grievance

A grievance may concern an alleged violation of school policies, alleged infringement of your rights as a student and other such problems concerning students, College staff and authorized College activities. You must follow these procedures to process your complaint or grievance:

(a) You 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.

(b) Consult with the appropriate supervisor (e.g. instructor, coordinator or division director) and attempt to resolve the grievance through informal discussions. The supervisor must inform you in writing of any decision made and the reason for that decision within five College working days. If you feel the grievance is not resolved, you may submit a grievance in writing to the next level of authority within 10 College working days from the time you filed the complaint at the previous level. Each level appealed to will have five College working days to respond.

(c) Consult with the Dean of Student Services. (1) Submit the grievance in writing to the Dean of Student Services and request a conference. (2) The Dean will notify the Affirmative Action/Title IX Officer of the College in writing of any grievance concerned with alleged discrimination. (3) The Dean must, within five College working days, inform you in writing of any decision made and the reasons for making that decision. (4) You 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.
(d) Consult with the President of the College. (1) The President must receive the written appeal within 10 College working days from the time you filed the grievance with the Dean of Student Services. (2) The President must, within five College working days, inform you in writing of any decisions made and reasons for that decision. (3) The decision of the President is final.

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

Your rights as a grievant
No reprisals of any kind will be taken against you by any member or representative of the administration for filing a grievance.

Access to Student Information
Your rights concerning access to your 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 you an opportunity to inspect your educational records. Contact the JCCC Admissions/Records Office.
• provide you the opportunity to challenge through a hearing the content of your educational records if you believe they contain information that is inaccurate, misleading or in violation of the right to privacy. (Grades are not subject to challenge.)
• limit disclosure of information from your record to those who have your written consent or to officials specifically permitted within the law, such as college officials and — under certain conditions — local, state and federal officials.

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

JCCC does not publish a student directory. JCCC may, upon request, provide the following information to authorized individuals:
• 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 members
• dates of attendance
• degrees
• awards received
• most recent previous educational institution attended

If you object to the disclosure of any of the above information, notify the Admissions/Records Office in writing which items you do not want released without your consent.

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

You may file a complaint with the Department of Education if you believe your rights under this law have been violated and if efforts to resolve the situation through JCCC appeal channels have proved unsatisfactory. Send your complaint to:
F.E.R.P.A., Department of Education
Room 514 E
200 Independence Avenue SW
Washington, DC 20201
Continuing Education
Community Development
Community School Program
A Program for Those Over 60
Employee Development Program
On-Site Education
Clinics for Youth
Speakers Bureau
Child Care Directory
Television Courses
Tours
Special Events
Travel for Credit
Conferences and Workshops
Extension Courses
Use of College Facilities
Community Theater, Chorus, Jazz Band
COMMUNITY EDUCATION AT JCCC

What is community education at JCCC? It's credit and non-credit courses and activities ... formal classes or non-traditional programs ... cultural and recreational offerings designed specifically to meet the needs of the community and using school, college, library and other facilities. Community education activities at JCCC are created using input from you and the community.

Continuing Education
Would you like to improve your on-the-job performance, develop a new skill or pursue a leisure-time interest? Try the workshops, seminars and courses offered through JCCC's continuing education program. Most courses are non-credit and are held at convenient locations throughout Johnson County. Bulletins announcing available courses are mailed to all Johnson County residences three times a year.

Courses and activities are offered in these areas:
- Arts, Crafts and Hobbies
- Automotive
- Aviation
- Business and Finance
- Career Planning
- Childhood Education
- Communications
- Dance
- English as a Second Language
- Family Life
- Film
- Foods
- Foreign Language
- GED Tests and CLEP
- Health and Safety
- Horsemanship
- Home Management
- Industrial Arts
- Music
- Office Education
- Performing Arts
- Personal Development
- Photography
- Physical Development
- Reading and Math
- Real Estate
- Science
- Sewing
- Sign Language
- Sports and Recreation

Community Development
If you are concerned about development, stabilization or change in your community, why not confront these issues with others who care? JCCC is often a meeting ground and catalyst for citizens interested in:
- developing leadership skills
- examining proposed amendments to the state constitution
- meeting and questioning candidates for political office
- exploring problems related to youth, women, single adults and the elderly
- discussing health services, county reorganization, 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 School Program
If you live in one of the smaller urban or rural areas in Johnson County, you do not have to travel far to take JCCC courses. JCCC comes to you through its community school program established in Olathe and co-sponsored by Olathe Unified School District 233; in Stanley-Stilwell, co-sponsored by Blue Valley Unified School District 229; in DeSoto, co-sponsored by DeSoto Unified School District 232; in Spring Hill, co-sponsored by Spring Hill Unified School District 230; and in Gardner-Edgerton-Antioch, co-sponsored by Unified School District 231. Classes are held in local schools and are selected jointly by community advisory committees and JCCC. Each community school also has a resident coordinator who assists in selecting courses and who acts as liaison between the community and JCCC. Community school courses are listed in a separate Community School Bulletin that is mailed every spring and fall to residents of Olathe, Stanley-Stilwell, DeSoto, Spring Hill and Gardner-Edgerton-Antioch. These classes also are listed in the regular JCCC Community Education Bulletin which is mailed to all Johnson County residents.

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, jewelry, theatre, music, photography, astronomy, travel, nature and commerce. The College cooperates with local schools, colleges, institutions and organizations to offer you an exciting program of cultural activities both on and off campus.

A Program for Those Over 60
Are you over 60 and a Johnson County resident? You are in luck—you can join JCCC's Brown and Gold Club! There is no charge to join. And, as a member, you don't have to pay to take College credit and non-credit courses or to get into College-sponsored musical, dramatic or athletic programs.

In addition to the Brown and Gold Club, JCCC presents programs for those over 60 at senior citizen centers, luncheon sites, churches and libraries. Another popular over-60 activity is Campus Day, a full day of programs and involvement with JCCC students and instructors held each semester.

Employee Development Programs
On-Site Education
JCCC has helped many organizations in Johnson County meet their employee training needs by offering a variety of programs in such areas as management, human relations, business writing, financial planning and physical fitness. College staff teaches many courses listed in the College Catalog and Community Education Bulletin on the premises of any business, firm, industry or community organization in Johnson County. If your organization has a specific need that cannot be met by existing programs, JCCC will assist you in designing a program to meet that need. Many organizations have participated in JCCC's employee development programs including Johnson County Library, Montgomery Ward, King Radio and Shawnee Mission Medical Center. Employee development seminars also are offered on campus throughout the year. Contact the Continuing Education Office for more information.

Clinics and Courses for Youth
Each year JCCC offers sports clinics and courses for boys and girls from 7-16. The clinics focus on tennis, baseball, basketball, gymnastics, volleyball, softball and soccer.
Speakers Bureau

Does your organization need a guest speaker? You pick the topic—chances are JCCC’s Speakers Bureau can arrange for someone to speak to your organization about it. The Bureau also can arrange performances by music, drama and speech students.

Child Care Directory

A complete directory of child care centers in Johnson County is published annually by JCCC. To get your copy, send a large, stamped, self-addressed envelope to JCCC Community Services, 12345 College at Quivira, Overland Park, Kansas 66210.

Special Events

The many special events JCCC offers each year cover a variety of topics including music, theatre, art, astronomy, energy, health, foreign policy, science fiction, film festivals and family fun. Seminars and conferences in parent education, pre-retirement aging and stress management also are offered. In addition, JCCC holds forums on community action throughout the area in cooperation with other organizations.

Travel for Credit

Spend a week scuba diving in Florida or studying in Europe—and earn up to three college credits. It’s possible through JCCC’s travel-for-credit courses offered each semester. First you will meet in class several times before the trip. Then you will travel to the selected area and experience what you’ve learned in class and through reading. You will be assigned required reading before, during and after the trip. Check the Credit Bulletin for travel-for-credit courses currently being offered.

Courses by Television

Each semester JCCC offers telecourses which make it possible to earn college credit at your own pace. Non-credit telecourses also are offered. Each lesson is shown several different times a week—you pick the time most convenient for you. And if you miss a lesson one week, you may view it on videotape in the JCCC Library.

You also may save time, money and gas through courses by television. There is no need to come to campus except for a few scheduled class meetings and for exams. That means no hassles with traffic, bad weather or babysitters. Simply switch on your cable television and your living room becomes a classroom.

You can apply college credits earned through telecourses to your associate degree program and in most cases these credits will transfer to other colleges. You may be either a full-time or part-time student at JCCC and there is no limit to the number of telecourses you may take.

It’s natural to be apprehensive about learning on your own out of the classroom. But if you are self-disciplined and can learn without supervision, you should have no problems. And if you have questions during the semester, a JCCC instructor will be just a phone call away. Contact the Continuing Education Office for details.
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. For more information about the use of College facilities contact the Community Services Office.

Community Theatre, Chorus, Jazz Band
The College cooperates with The Barn Players, Inc. to bring community theatre 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 Jazz Band presents music in the styles of Count Basie, Stan Kenton, Maynard Ferguson and others at concerts held twice a year in JCCC's Little Theatre. Community concerts also may be booked through the Community Services Office.

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

Conferences and Workshops
The College's community service program 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. For more information, contact the Community Services Office.

Extension Courses
The College provides off-campus community education outreach courses for college credit. All credit courses offered by the College can be offered at any location if there is enough participants and the environment is conducive to learning. For more information contact the Continuing Education Office.

Arts Council of Johnson County
As part of the mission to serve as a cultural center, the College has assumed leadership in establishing and sponsoring the Arts Council of Johnson County. An office with a part-time administrator is maintained on the 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 bi-monthly cultural arts calendar and newsletter, an annual major public event and workshops, and cooperates with other community organizations to conduct needs surveys and present arts programs.
ADKINS, Jerry
Program/Analyst

ALLISON, Charles (Tom)
Instructor, Electronics
B.S.E.E., Missouri Institute of Technology

ALVERS, Jean
Instructor, Psychology
B.S., Eastern Michigan University
M.A., University of Michigan

ANDERSON, Christine
Librarian
B.A., University of Massachusetts
M.A., University of Iowa

AXON, Dave E.
Instructor, Speech
B.A., Park College
M.Ed., Pennsylvania State University

BALLARD, Judith A.
Instructor, General Studies
B.A., William Jewell College
M.A., University of Missouri at Kansas City

BARNETT, Thomas M.
Instructor, Physical Sciences
B.S., M.S., Eastern New Mexico University
Ed.D., North Texas State University

BARNHART, Tim
Art Director/Supervisor
B.F.A., Kansas City Art Institute

BAUMAN, Anne W.
Instructor, Communications
B.A., Fontbonne College
M.A., Loyola University

BAUMAN, Mark
Instructor, German & Communications
A.B., Benedictine College
M.A., University of Kansas
S.T.L., University of Munich, Germany

BEALS, Stuar:
Instructor, Photography
B.A., University of Kansas

BEHBEHANI, Zohreh S.
Instructor, General Business
LL.B., University of Tehran
LL.M., University of Missouri at Kansas City

BENJAMIN, William
Instructor/Coordinator, Fire Protection
B.S., M.S., Central Missouri State University

BEST, Pat
Administrative Services Assistant

BISHOP, Charles C.
Instructor, Social Sciences
B.A., Midland College
M.A., University of Kansas
BODNER, Joanne  
Program Specialist  
B.S., University of Kansas  
M.S., Indiana State University

BRAZIL, Shirley J.  
Instructor, Art  
B.A., Avila College

BUCKLEY, Gerard  
Program Director, Special Services  
B.S.W., Rochester Institute of Technology for the Deaf  
M.S.W., University of Missouri at Columbia

BUCKNER, Virginia  
Instructor, Life Sciences  
B.A., Vassar College  
M.S., University of Missouri at Kansas City

BURNS, Mary Jane  
Instructor, Communications  
B.A., Benedictine College  
M.A., University of Missouri at Kansas City

BUTLER, Eugene  
Instructor, Vocal Music  
B.Mus., University of Oklahoma  
S.M.M., Union Theological Seminary  
D.M.A., University of Missouri at Kansas City

BYRUM, Paul  
Instructor, Mathematics  
B.S., U.S. Naval Academy  
M.A.T., Duke University

CLARK, Robert  
Instructor, General Business  
A.A.S., Utica School of Commerce  
B.A., University of Missouri at Kansas City  
M.A., Webster College

COFFEY, Kenneth  
Instructor/Coordinator, Accounting  
A.A., Pueblo Junior College  
B.A., M.A., Colorado State College

COFFMAN, Bob L.  
Director, Media Production  
B.A., Bethany College

COLE, Linda  
Community Education Specialist  
B.J., M.Ed., University of Missouri at Columbia

COLE, Marsha  
Purchasing Agent

COLE, Norma L.  
Instructor, Nursing  
B.A., M.S., University of Missouri at Kansas City

COURTRIGHT, Madeline  
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B.S.N., Avila College  
M.A., University of Missouri at Kansas City

CRAMER, Rebecca  
Instructor, Social Sciences  
B.A., University of New York  
M.A., University of Iowa

CRAWFORD, Samuel J.  
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B.S., M.S., Emporia State University

CROSSON, Susan  
Instructor, Accounting  
B.B.A., Southern Methodist University  
M.S., Texas Tech University

CUNNINGHAM, Alan  
Instructor, Humanities  
B.A., Chico State College  
M.S.Ed., University of Kansas
CUDDINGHAM, Forrest  
Instructor, Electronics Technology  
B.S., Bethany Nazarene College  
B.S., M.S., Naval Post Graduate School  

CUDDINGHAM, Melvin C.  
Director, Library Services  
B.G.S., Municipal University of Omaha  
B.S.E., University of Nebraska at Omaha  
M.L., Emporia State University  

DALSING, Max V.  
Instructor, Life Sciences  
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DAYTON, Linda L.  
Dean of Student Services  
B.S., M.S., Emporia State University  

DENNIS, Marcia  
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B.J., University of Missouri at Columbia  

DEVAULT, Charles  
Coordinator, Television  
B.F.A., Ohio University  
M.A., Kent State University  

DOUGHERTY, Carol  
Counselor  
B.A., Rockhurst College  
M.Ed., University of Missouri at Columbia  

DOVER, Mary  
Financial Aid Officer  
A.A., Kansas City Missouri Junior College  

DOVER-WOODS, Robin  
Instructor, Nursing  
B.S.N., Pittsburgh State University  

DOWNING, Kristin  
Counselor  
B.S., M.S., Emporia State University  

DRYSDALE, John  
Instructor, Hospitality Management  
B.A., Michigan State University  

DYER, Richard  
Director, Budget and Grants  
B.B.A., M.B.A., University of Missouri at Kansas City  

EFFINGHAM, Marie  
Instructor, Nursing  
B.S., University of Chicago  
M.A., University of Missouri at Kansas City  

EVANS, David J.  
Instructor, Accounting  
B.S.C., University of Iowa  
M.Ed., University of Nebraska  

EVANS, James D.  
Instructor, General Business  
B.S., Kansas State University  
M.S., Emporia State University  

EVESLAGE, Roberta  
Instructor, Psychology  
B.F.A., Texas Christian University  
M.A., Ph.D., University of Kansas  

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A "MAZE"ING MINDS

If you like a challenge, see how quickly you can work your way through the maze that links these great minds—Leonardo da Vinci, Socrates, Emily Dickinson and Albert Einstein. The art of Leonardo, the philosophy of Socrates, the poems of Dickinson and the scientific vision of Einstein helped shape our history, our culture and our thought and challenge us all to reach for new meaning and new understanding.