Catalog of Courses Spring 2004

Graduation Requirements

Associate's Degrees

Transfer Guides

JCCC's transfer programs, ranging from accounting to theater. Credits from JCCC can be transferred to many colleges and universities in the United States.

Career and Certificate Programs

Credit Course Descriptions

Descriptions of the courses offered at JCCC, with additional links to the course outlines.

JCCC's credit career and certificate programs, ranging from automotive technology to veterinary technology. JCCC's credit career and certificate programs give you the opportunity to study a specific career and enter the job market directly.

Continuing Education Certificate Programs

Certificate programs offered through JCCC's continuing education program.

Continuing Education Course Descriptions

Student Handbook

Admissions information, services for students, student code of conduct, and academic policies and procedures.

Staff

A list of full-time faculty and administrators.

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; Hospitality Management - American Culinary Federation Educational Institute Accrediting Commission; Fire Service Administration - International Fire Service Accreditation Congress; Mobile Intensive Care Technician - Joint Review Committee on Educational Programs for the EMT-Paramedic; Nursing - Kansas State Board of Nursing and National League for Nursing and National League of Nursing; Paralegal - American Bar Association; Basic Police Academy - University of Kansas; and Respiratory Care - Commission on Accreditation of Allied Health Education Programs and the Committee on Accreditation for Respiratory Care.

Notice of Nondiscrimination

Johnson County Community College is committed to a policy of nondiscrimination involving equal access to education and employment opportunity to all regardless of sex, race, age, religion, color, national origin, handicap or veteran status. The administration further extends its commitment to fulfilling and implementing the federal, state and local laws and regulations as specified in Title IX

and Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. For assistance in these areas, contact the office of the dean of Student Services, Johnson County Community College, 12345 College Blvd., Overland Park, KS 66210-1299, 913-469-8500, or director, Office of Civil Rights, HHS, Washington, D.C. 20201.

JCCC provides a range of services to allow persons with disabilities to participate in educational programs and activities. If you desire support services, contact the office of Access Services for Students With Disabilities (913) 469-8500, ext. 3521 or TDD (913) 469-3885. The Access Services office is located in the Success Center on the second floor of the Student Center.

Graduation Requirements

Becoming a JCCC Graduation Candidate
One semester prior to your graduation:

- Complete an Application for Degree/Certificate of Completion form and turn it in at the Success Center on the second floor of the Student Center or mail to the attention of the Records office at JCCC.

Deadline for submitting an Application for Degree/Certificate of Completion is:

 - **June 15** for summer graduation

 - **October 15** for fall graduation

 - **February 15** for spring graduation

Requirements for degree or certificate of graduation:

- For an associate's degree, 15 credit hours must be earned in residence at JCCC. Advanced standing credit will not count toward satisfying this credit hour requirement.
- For certificates, a student must complete a minimum of 50 percent of the required coursework at JCCC.
- Graduates must have earned both a 2.0 grade point average at JCCC and have a cumulative 2.0 or better on all completed course work.
- Developmental and/or Prerequisite courses, required before enrollment in college-level courses, will not count toward fulfilling graduation degree/certificate requirements.
- Students must be enrolled in classes at JCCC during the semester they anticipate completing degree/certificate requirements and wish to graduate.
- Advanced standing credit will not count toward satisfying this credit hour requirement.

Rules to determine a student's graduation catalog term

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

Graduation Process
 1. Students must file the Application for Degree/Certificate of Completion form with the Records office by the deadline dates. Application for Degree/Certificate of Completion forms and Graduation Appeal can be picked up in the Success Center on the second floor of the Student Center or found online at Records (http://www.jccc.net/home/depts.php/5105).

Note: If the deadline to apply for graduation is missed, please see the appeals section of the Student Handbook for information on how to submit a Graduation Appeal.

 2. When a student applies for graduation, the Records office will complete a degree check to ensure degree requirements will be satisfied.

Note: It is best if students submit Application for Degree/Certificate of Completion forms at least one semester before students plan to graduate.

 3. Students may complete the requirements for a degree/certificate at the end of each semester or session. The degree/certificate status will be recorded on a student's permanent transcript record upon verification that all graduation requirements have been completed.

Associate's Degrees

Associate's Degrees Offered at JCCC

Associate of Arts

Associate of Science

Associate of Applied Science

Associate of Arts

The associate of arts degree from JCCC

- is designed for students who plan to transfer to a baccalaureate college or university.
- requires completion of 64 college-level credit hours within specified course distribution areas with a 2.0 or higher GPA.

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

- Communications (9 credit hours)
- Humanities (6 credit hours)

  - History is included in the Humanities category
- Social Science and/or Economics (6 credit hours)
- Science and Mathematics (9 credit hours)**

  **Must include one course from a lab science and one from mathematics
- Health and/or Physical Education (1 credit)

Note: The associate of arts degree is designed as a transfer curriculum. Students should refer to the transfer program sheets in the Student Success Center.

The following is an example of a first year schedule for an undecided transfer student. Students interested in a specific major or degree should talk with a JCCC counselor.

First Semester - CR (Credit Hours)

ENGL 121 Composition I   3

Social Science Elective 3

Math/Natural Science Elective 3-5

Humanities Elective 3

General Elective 3

Total Credit Hours 15-17

Second Semester - CR (Credit Hours)

ENGL 122 Composition II 3

Oral Communication Elective 3

Math/Natural Science Elective 3-5

Social Science/Humanities Elective 3

General Elective 3

Total Credit Hours 15-17

An associate of arts program is designed specifically to meet your educational objectives and needs by allowing you to complete general education requirements.

General Education Requirements

Communications - 9 hours

A. English Composition - 6 hours

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

B. Oral Communication - 3 hours

```
SPD  120   Interpersonal Communications........................3
SPD  121   Public Speaking.....................................3
SPD  125   Personal Communication..............................3
SPD  180   Intercultural Communication.........................3
*Prerequisite/Corequisite required
```

Humanities - 6 hours

```
No more than one course from each of the five
areas may count toward the six required hours.
```

A. Literature/Theatre

```
ENGL 130   Introduction to Literature*.........................3
ENGL 230   Introduction to Fiction*............................3
ENGL 231   American Prose*.....................................3
ENGL 235   Drama as Literature*................................3
ENGL 241   British Writers*....................................3
ENGL 250   World Masterpieces*.................................3
ENGL 254   Masterpieces of the Cinema*.........................3
ENGL 256   American Poetry*....................................3
THEA 120   Introduction to Theater.............................3
```

B. Foreign Language

(Note: These courses have prerequisites that

```
must be satisfied before enrollment.)
FL   178  Intermediate Russian I*...............................3
FL   179  Intermediate Russian II*..............................3
FL   190  Intermediate Japanese I*..............................3
FL   191  Intermediate Japanese II*.............................3
FL   192  Intermediate Chinese I*...............................3
FL   193  Intermediate Chinese II*..............................3
FL   220  Intermediate German I*................................3
FL   221  Intermediate German II*...............................3
FL   230  Intermediate Spanish I*...............................3
FL   231  Intermediate Spanish II*..............................3
FL   240  Intermediate French I*................................3
FL   241  Intermediate French II*...............................3
```

C. History

```
HIST 125  Western Civilization I................................3
HIST 126  Western Civilization II...............................3
HIST 130  European History from 1750............................3
HIST 135  Eastern Civilization..................................3
HIST 140  U.....................................................3
HIST 141  U.....................................................3
HIST 151  World History I.......................................3
HIST 152  World History II......................................3
HIST 160  Modern Russian History................................3
HIST 162  Modern Latin America..................................3
```

D. Humanities

```
ART  180  Art History...........................................3
ART  182  Art History...........................................3
ART  184  Art History...........................................3
HUM  122  Introduction to Humanities............................3
HUM  145  World Humanities I....................................3
HUM  146  World Humanities II...................................3
HUM  155  Classical Mythology...................................3
HUM  164  Civilisation..........................................3
MUS  121  Introduction to Music Listening.......................3
MUS  125  Introduction to Jazz Listening........................3
MUS  126  Introduction to World Music...........................3
PHOT 140  History of Photography................................3
REL  120  Exploring World Religions.............................3
```

E. Philosophy

```
PHIL 121  Introduction to Philosophy............................3
PHIL 124  Logic and Critical Thinking...........................3
PHIL 143  Ethics................................................3
PHIL 154  History of Ancient Philosophy.........................3
PHIL 176  Philosophy of Religion................................3
*Prerequisite/Corequisite required
```

Social Science/Economics - 6 hours

```
No more than one course from each of the five
areas may count toward the six required hours.
```

A. Anthropology

```
ANTH 125  Cultural Anthropology.................................3
ANTH 126  Physical Anthropology.................................3
```

```
ANTH 130  World Cultures.......................................3
ANTH 210  Peoples of the World.................................3
```

B. Economics

```
ECON 130  Basic Economics......................................3
ECON 132  Survey of Economics..................................3
ECON 230  Economics I..........................................3
ECON 231  Economics II.........................................3
```

C. Political Science

```
POLS 122  Political Science....................................3
POLS 124  American National Government.........................3
POLS 126  State and Local Government...........................3
POLS 132  Introduction to Comparative Government...............3
POLS 135  International Relations..............................3
```

D. Psychology

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

E. Sociology

```
SOC  122  Introduction to Sociology............................3
SOC  125  Social Problems......................................3
SOC  131  Marriage and the Family..............................3
```

Science and/or Mathematics - 9 hours

```
Must include at least one course from a lab science
and one from mathematics.
```

A. Life Science

```
BIOL 122  Principles of Biology Lecture........................3
BIOL 123  Principles of Biology Lab*...........................1
BIOL 124  Oceanus..............................................3
BIOL 125  General Botany.......................................5
BIOL 127  General Zoology......................................5
BIOL 130  Environmental Science Lecture........................3
BIOL 131  Environmental Science Lab*...........................1
BIOL 140  Human Anatomy........................................4
BIOL 144  Human Anatomy/Physiology.............................5
BIOL 150  Biology of Organisms*...............................5
BIOL 225  Human Physiology*....................................4
BIOL 230  Microbiology Lecture*................................3
BIOL 231  Microbiology Lab*....................................2
*Prerequisite/Corequisite required
```

B. Physical Science

```
ASTR 120  Fundamentals of Astronomy............................3
ASTR 122  Astronomy............................................4
CHEM 120  Chemistry in Society.................................4
CHEM 122  Principles of Chemistry..............................5
CHEM 124  General Chemistry I Lecture*.........................4
CHEM 125  General Chemistry I Lab*.............................1
CHEM 131  General Chemistry II Lecture*........................4
CHEM 132  General Chemistry II Lab*............................1
CHEM 140  Principles of Organic Chemistry*.....................5
GEOS 130  General Geology......................................5
GEOS 140  Physical Geography/Lab...............................3
```

```
GEOS 141   Physical Geography Lab*..............................2
GEOS 145   World Regional Geography.............................3
PHYS 130   General Physics I*...................................5
PHYS 131   General Physics II*..................................5
PHYS 220   Engineering Physics I*..............................5
PHYS 221   Engineering Physics II*.............................5
PSCI 120   Physical Science....................................4
*Prerequisite/Corequisite required
```

C. Mathematics

```
MATH 165   Finite Math.........................................3
MATH 171   College Algebra*^...................................3
MATH 172   Trigonometry*^......................................3
MATH 173   Precalculus*^.......................................5
MATH 175   Discrete Math and Its Applications*.................3
MATH 181   Statistics*.........................................3
MATH 225   Math as a Decision-making Tool*.....................3
MATH 231   Business and Applied Calculus I*....................3
MATH 232   Business and Applied Calculus II*...................3
MATH 241   Calculus I*.........................................5
MATH 242   Calculus II*........................................5
MATH 243   Calculus III*.......................................5
MATH 244   Differential Equations*.............................3
*Prerequisite/Corequisite required


        ^MATH 173 is not available for credit to students
who have completed MATH 171 and/or MATH 172.

Students who have credit in MATH 173 will not
receive credit for MATH 171 and/or MATH 172.
```

Health and/or Physical Education - 1 hour

```
HPER       Any Activity Course.................................1
EMS  121   CPR I - Basic Rescuer...............................1
HMEC 151   Nutrition and Meal Planning.........................3
HPER 192   Wellness for Life...................................1
HPER 200   First Aid/CPR.......................................2
HPER 202   Personal/Community Health...........................3
HPER 205   Individual Lifetime Sports..........................2
HPER 240   Lifetime Fitness....................................1
HPER 255   Introduction to Physical Education..................3
```

Associate of Science

The associate of science degree from JCCC
- is designed with an emphasis in a specific career program.
- requires completion of a minimum of 64 college-level credit hours within specified course distribution areas, including the emphasis of study, with a 2.0 or higher GPA.

The 64 hours of credit necessary to complete the associate of science degree include the following general education requirements plus the courses listed for the specific career program:
- Communications (9 hours)
- Humanities (6 hours)
- Social Science and/or Economics (6 hours)
- Science and Mathematics (12 hours)
- Health and/or Physical Education (1 hour)

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

General Education Requirements

(available for career programs only)

Communications - 9 hours

```
A.

ENGL 121  Composition I*......................................3
*Prerequisite/Corequisite required
```

B. Communications Elective - 6 hours

(two of the following)

```
ENGL 122  Composition II*.....................................3
ENGL 123  Technical Writing I*................................3
BUS  150  Business Communications*...........................3
SPD  120  Interpersonal Communications.......................3
SPD  121  Public Speaking....................................3
SPD  125  Personal Communication.............................3
SPD  180  Intercultural Communications.......................3
*Prerequisite/Corequisite required
```

Humanities - 6 hours

```
Two courses from any of the following categories
may count toward the six required hours.
```

A. Literature/Theater

```
ENGL 130  Introduction to Literature*........................3
ENGL 230  Introduction to Fiction*...........................3
ENGL 231  American Prose*....................................3
ENGL 235  Drama as Literature*...............................3
ENGL 241  British Writers*...................................3
ENGL 250  World Masterpieces*................................3
ENGL 254  Masterpieces of the Cinema*........................3
ENGL 256  American Poetry*...................................3
THEA 120  Introduction to Theater............................3
*Note: ENGL 130 has pre-requisite of ENGL 121
*Note: ENGL 230 has pre-requisite of ENGL 122
```

B. Foreign Language

```
          Note: These courses have prerequisites.
FL   178  Intermediate Russian I*............................3
FL   179  Intermediate Russian II*...........................3
FL   190  Intermediate Japanese I*...........................3
FL   191  Intermediate Japanese II*..........................3
FL   192  Intermediate Chinese I*............................3
FL   193  Intermediate Chinese II*...........................3
FL   220  Intermediate German I*.............................3
FL   221  Intermediate German II*............................3
FL   230  Intermediate Spanish I*............................3
FL   231  Intermediate Spanish II*...........................3
FL   240  Intermediate French I*.............................3
FL   241  Intermediate French II*............................3
```

C. History

```
HIST 125  Western Civilization I.............................3
```

```
HIST 126   Western Civilization II..............................3
HIST 130   European History from 1750...........................3
HIST 135   Eastern Civilization.................................3
HIST 140   U...................................................3
HIST 141   U...................................................3
HIST 151   World History I......................................3
HIST 152   World History II.....................................3
HIST 160   Modern Russian History...............................3
HIST 162   Modern Latin America.................................3
```

D. Humanities

```
ART  180   Art History.........................................3
ART  182   Art History.........................................3
ART  184   Art History.........................................3
HUM  122   Introduction to Humanities..........................3
HUM  145   World Humanities I..................................3
HUM  146   World Humanities II.................................3
HUM  155   Classical Mythology.................................3
HUM  164   Civilization........................................3
MUS  121   Introduction to Music Listening.....................3
MUS  125   Introduction to Jazz Listening......................3
MUS  126   Introduction to World Music.........................3
PHOT 140   History of Photography..............................3
REL  120   Exploring World Religions...........................3
```

E. Philosophy

```
PHIL 121   Introduction to Philosophy..........................3
PHIL 124   Logic and Critical Thinking.........................3
PHIL 143   Ethics..............................................3
PHIL 154   History of Ancient Philosophy.......................3
PHIL 176   Philosophy of Religion..............................3
*Prerequisite/Corequisite required
```

Social Science/Economics - 6 hours

```
Two courses from any of the following categories
may count toward the six required hours.
```

A. Anthropology

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

B. Economics

```
ECON 130   Basic Economics.....................................3
ECON 132   Survey of Economics.................................3
ECON 230   Economics I.........................................3
ECON 231   Economics II........................................3
```

C. Political Science

```
POLS 122   Political Science...................................3
POLS 124   American National Government........................3
POLS 126   State and Local Government..........................3
POLS 132   Introduction to Comparative Government..............3
POLS 135   International Relations.............................3
```

D. Psychology

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

E. Sociology

```
SOC  122   Introduction to Sociology.............................3
SOC  125   Social Problems.......................................3
SOC  131   Marriage and the Family...............................3
```

Science and Mathematics -12 hours

Must include at least one course in mathematics
and at least one in a lab science.

A. Mathematics

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

Note: MATH 173 is not available for credit to students
who have completed MATH 171 and/or MATH 172.
Students who have credit in MATH 173 will not
receive credit for MATH 171 and/or MATH 172.

B. Science

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

(Life Science)

```
BIOL 122   Principles of Biology Lecture.........................3
BIOL 123   Principles of Biology Lab*............................1
BIOL 124   Oceanus...............................................3
BIOL 125   General Botany........................................5
BIOL 127   General Zoology.......................................5
BIOL 130   Environmental Science Lecture.........................3
BIOL 131   Environmental Science Lab*............................1
BIOL 140   Human Anatomy.........................................4
BIOL 144   Human Anatomy/Physiology..............................5
BIOL 150   Biology of Organisms*.................................5
BIOL 225   Human Physiology*.....................................4
BIOL 230   Microbiology Lecture*.................................3
BIOL 231   Microbiology Lab*.....................................2
*Prerequisite/Corequisite required
```

(Physical Science)

```
ASTR 120   Fundamentals of Astronomy.............................3
ASTR 122   Astronomy.............................................4
CHEM 120   Chemistry in Society..................................4
CHEM 122   Principles of Chemistry...............................5
CHEM 124   General Chemistry I Lecture*..........................4
CHEM 125   General Chemistry I Lab*..............................1
CHEM 131   General Chemistry II Lecture*.........................4
CHEM 132   General Chemistry II Lab*.............................1
CHEM 140   Principles of Organic Chemistry*......................5
GEOS 130   General Geology.......................................5
GEOS 140   Physical Geography Lecture............................3
GEOS 141   Physical Geography Lab*...............................2
GEOS 145   World Regional Geography..............................3
PHYS 125   Technical Physics I*..................................4
PHYS 130   General Physics I*....................................5
```

```
PHYS 131  General Physics II*...................................5
PHYS 220  Engineering Physics I*...............................5
PHYS 221  Engineering Physics II*..............................5
PSCI 120  Physical Science.....................................4
*Prerequisite/Corequisite required


Any remaining hours for this requirement beyond the
one math and one lab science requirement may be
satisfied by taking additional courses from the approved
math and lab science courses.
```

Health and/or Physical Education - 1 hour

```
HPER      Any Activity Course..................................1
EMS  121  CPR I - Basic Rescuer................................1
HMEC 151  Nutrition and Meal Planning..........................3
HPER 192  Wellness for Life....................................1
HPER 200  First Aid/CPR........................................2
HPER 202  Personal/Community Health............................3
HPER 205  Individual Lifetime Sports...........................2
HPER 240  Lifetime Fitness.....................................1
HPER 255  Introduction to Physical Education...................3
```

Associate of Applied Science

The associate of applied science degree from JCCC
- is designed with an emphasis in a specific career program.
- requires completion of a minimum of 64 college-level credit hours within specified course distribution areas, including emphasis of study, with a 2.0 GPA.

The 64 hours of credit necessary to complete the associate of applied science degree include 15 credits of general education requirements plus the courses listed for the specific career program. At a minimum, the distribution must include:
- Communications (3 hours)
- Humanities (3 hours)
- Social Science and/or Economics (3 hours)
- Science and Mathematics (3 hours)
- Health and/or Physical Education (1 hour)

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

General Education Requirements

(available for career programs only)

Communications - 3 hours

```
A.

ENGL 121  Composition I*.......................................3
*Prerequisite/Corequisite required


If your specific degree program requires a communications
elective, choose three hours from the following:

ENGL 122  Composition II*......................................3
ENGL 123  Technical Writing I*.................................3
BUS  150  Business Communications*.............................3
```

```
SPD  120  Interpersonal Communications.........................3
SPD  121  Public Speaking......................................3
SPD  125  Personal Communication...............................3
SPD  180  Intercultural Communications.........................3
*Prerequisite/Corequisite required
```

Humanities - 3 hours

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

A. Literature/Theater

```
**Note: This course has a prerequisite of ENGL 121.

ENGL 130  Introduction to Literature*..........................3
**Note: These courses have a prerequisite of ENGL 122.

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

B. Foreign Language

```
**Note: These courses have prerequisites.

FL   178  Intermediate Russian I*..............................3
FL   179  Intermediate Russian II*.............................3
FL   190  Intermediate Japanese I*.............................3
FL   191  Intermediate Japanese II*............................3
FL   192  Intermediate Chinese I*..............................3
FL   193  Intermediate Chinese II*.............................3
FL   220  Intermediate German I*...............................3
FL   221  Intermediate German II*..............................3
FL   230  Intermediate Spanish I*..............................3
FL   231  Intermediate Spanish II*.............................3
FL   240  Intermediate French I*...............................3
FL   241  Intermediate French II*..............................3
```

C. History

```
HIST 125  Western Civilization I...............................3
HIST 126  Western Civilization II..............................3
HIST 130  European History from 1750...........................3
HIST 135  Eastern Civilization.................................3
HIST 140  U....................................................3
HIST 141  U....................................................3
HIST 151  World History I......................................3
HIST 152  World History II.....................................3
HIST 160  Modern Russian History...............................3
HIST 162  Modern Latin America.................................3
```

D. Humanities

```
ART  180  Art History..........................................3
ART  182  Art History..........................................3
ART  184  Art History..........................................3
HUM  122  Introduction to Humanities...........................3
HUM  145  World Humanities I...................................3
HUM  146  World Humanities II..................................3
```

```
HUM  155  Classical Mythology.................................3
HUM  164  Civilisation.......................................3
MUS  121  Introduction to Music Listening....................3
MUS  125  Introduction to Jazz Listening.....................3
MUS  126  Introduction to World Music........................3
PHOT 140  History of Photography.............................3
REL  120  Exploring World Religions..........................3
```

E. Philosophy

```
PHIL 121  Introduction to Philosophy.........................3
PHIL 124  Logic and Critical Thinking........................3
PHIL 143  Ethics.............................................3
PHIL 154  History of Ancient Philosophy......................3
PHIL 176  Philosophy of Religion.............................3
*Prerequisite/Corequisite required
```

Social Science/Economics - 3 hours

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

A. Anthropology

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

B. Economics

```
ECON 130  Basic Economics....................................3
ECON 132  Survey of Economics................................3
ECON 230  Economics I........................................3
ECON 231  Economics II.......................................3
```

C. Political Science

```
POLS 122  Political Science..................................3
POLS 124  American National Government.......................3
POLS 126  State and Local Government.........................3
POLS 132  Introduction to Comparative Government.............3
POLS 135  International Relations............................3
```

D. Psychology

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

E. Sociology

```
SOC  122  Introduction to Sociology..........................3
SOC  125  Social Problems....................................3
SOC  131  Marriage and the Family............................3
```

Science and/or Mathematics - 3 hours

```
Any mathematics course except Fundamentals of Mathematics or
Introduction to Algebra will satisfy this requirement, or
the requirement can be satisfied by any of the following
courses.
```

A. Life Science

```
BIOL 122   Principles of Biology Lecture........................3
BIOL 123   Principles of Biology Lab*..........................1
BIOL 124   Oceanus.............................................3
BIOL 125   General Botany......................................3
BIOL 127   General Zoology.....................................3
BIOL 130   Environmental Science Lecture.......................3
BIOL 131   Environmental Science Lab*..........................1
BIOL 140   Human Anatomy.......................................4
BIOL 144   Human Anatomy/Physiology............................5
BIOL 150   Biology of Organisms*...............................5
BIOL 225   Human Physiology*...................................4
BIOL 230   Microbiology Lecture*...............................3
BIOL 231   Microbiology Lab*...................................2
*Prerequisite/Corequisite required
```

B. Physical Science

```
ASTR 120   Fundamentals of Astronomy...........................3
ASTR 122   Astronomy...........................................4
CHEM 120   Chemistry in Society................................4
CHEM 122   Principles of Chemistry.............................5
CHEM 124   General Chemistry I Lecture*........................4
CHEM 125   General Chemistry I Lab*............................1
CHEM 131   General Chemistry II Lecture*.......................4
CHEM 132   General Chemistry II Lab*...........................1
CHEM 140   Principles of Organic Chemistry*....................5
GEOS 130   General Geology.....................................5
GEOS 140   Physical Geography Lecture..........................3
GEOS 141   Physical Geography Lab*.............................2
GEOS 145   World Regional Geography............................3
PHYS 125   Technical Physics I*................................4
PHYS 130   General Physics I*..................................5
PHYS 131   General Physics II*.................................5
PHYS 220   Engineering Physics I*..............................5
PHYS 221   Engineering Physics II*.............................5
PSCI 120   Physical Science....................................4
*Prerequisite/Corequisite required
```

```
Note: MATH 173 is not available for credit to students
who have completed  MATH 171 and/or MATH 172.
Students who have credit in MATH 173 will not receive
credit for MATH 171 and/or MATH 172.
```

Health and/or Physical Education - 1 hour

```
HPER       Any Activity Course.................................1
EMS  121   CPR I - Basic Rescuer...............................1
HMEC 151   Nutrition and Meal Planning.........................3
HPER 192   Wellness for Life...................................1
HPER 200   First Aid/CPR.......................................2
HPER 202   Personal/Community Health...........................3
HPER 205   Individual Lifetime Sports..........................2
HPER 240   Lifetime Fitness....................................1
HPER 255   Introduction to Physical Education..................3
```

Transfer Guides

University Transfer Program for Undecided Students

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

In general, a total of 124 to 128 hours are required for most four-year degrees. If you are still undecided about a major in your second year, you should work

closely with a counselor in making a decision that will enable you to transfer without loss of time or credit.

University Transfer Programs for Specific Majors

Copies of university transfer programs are available in the Success Center on campus or on the transfer information Web site.

Individual Transfer Program

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

Career and Certificate Programs

Career Programs

JCCC's career programs provide the opportunity for students to study specific careers and enter the job market directly. Each program has been designed with the assistance of a community advisory committee of men and women currently working in the field who are well aware of the requirements and job potential in today's market.

Although career program courses usually are not intended to be transfer programs, some of the courses may transfer to four-year colleges and universities. Specific information on course transferability can be found in the Success Center on campus or on the transfer information Web site (http://web.jccc.net/academic/transfer). Several of the career programs enable students to gain valuable work experience in the community while taking the career program courses.

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

Credit Career and Certificate Program List

Listing of JCCC's career and certificate programs

Certificate of Completion

To earn a certificate of completion at Johnson County Community College, students must have demonstrated the basic skills competencies as outlined. In addition, students must have successfully completed an approved certificate program with both a cumulative grade point average of 2.0 or better and a JCCC GPA of 2.0 or better. Students must complete a minimum of 50 percent of the required coursework at JCCC.

Students must be enrolled at the college during the time they anticipate completing certificate requirements. An application to complete certificate requirements must be filed in the Success Center on campus by the following dates:

- Feb. 15 for spring graduation
- June 15 for summer graduation
- Oct. 15 for fall graduation

Certificates will be issued at the end of each semester or term. Graduation exercises will be held once a year at the completion of the spring semester.

Students who have completed the requirements for a certificate in prior semesters of the same academic year will be invited to participate in graduation. Specific course completion certificates will be awarded as appropriate and as specified in the college catalog.

Postsecondary/Vocational Certificates
- are designed with an emphasis on a specific career program.

Postsecondary Certificates
- provide training in a focused program.
- require successful completion of a minimum of 31 credit hours with a 2.0 or higher GPA.
- must include ENGL 121, Composition I, and MATH 115, Introduction to Algebra, or higher.

Vocational Certificates
- provide specialized training.
- require successful completion of the courses specified with at least a 2.0 or higher GPA.
- can range from 3 to 45 credit hours.

Associate of Applied Science: Kansas AVS/TC Articulated

Credit Career and Certificate Program List

ABLE

ABLE

Accounting

Accounting, A.A.S.

Supervision Management Certificate

Administration of Justice/Law Enforcement

Administration of Justice, A.A.

Agriculture (see Horticulture; see Grounds/Turf Management

Area Vocational Schools and Technical Colleges Completion

Associate of Applied Science: Kansas AVS/TC Articulated

Automotive Technology

Automotive Technology, A.A.S.

Automotive Technology Certificate

Biotechnology (see Science Technology)

Business Administration

Business Administration, A.A.S.

Business Entrepreneurship

Business Entrepreneurship, A.A.S.

Business Entrepreneurship Certificate

Business Plan Certificate

Business Office Technology

Administrative Assistant, A.A.S.

Administrative Assistant with Legal Emphasis, A.A.S.

Administrative Assistant with Medical Emphasis, A.A.S.

Administrative Support Specialist Certificate

Medical Office Assistant Certificate

Medical Transcription Certificate

Office Careers Certificate

Owning/Managing a Virtual Home Office Certificate

Virtual Home Office Certificate

Virtual Medical Office Certificate

Civil Engineering Technology

Civil Engineering Technology, A.A.S.

Construction Management Certificate

Engineered Plumbing Systems Certificate

Communication Design

Communication Design, A.A.S.

Computer Information Systems

Computer Information Systems, A.A.S.

Database Certificate

Desktop Publishing Certificate

Mainframe Programmer Analyst Certificate

Microcomputer Programmer Analyst Certificate

Personal Computer Applications Certificate

Web Application Certificate

Web Developer Advanced Certificate

Construction Management (see Civil Engineering Technology)

Cosmetology

Advanced Esthetics Training

Cosmetology, A.A.S.

Cosmetology Certificate

Cosmetology Instruct Training

Esthetics Certificate

Nail Technology Certificate

Data Processing (see Computer Information Systems)

Dental Assisting

Dental Assisting Certificate

Dental Hygiene

Dental Hygiene, A.A.S.

Drafting Technology

Computer-aided Drafting and Design Technology, A.A.S.

Computer-aided Drafting Certificate

Computer-aided Drafting Network Administrator Certificate

Early Childhood Education

Early Childhood Education, A.S.

Early Childhood Education Certificate

Electrical Technology

Electrical Technology, A.A.S.

Electrical Technology Certificate

Electrical Technology/Industrial Maintenance Option, A.A.S.

Electrical Technology/Industrial Maintenance Certificate

Electronics Technology

Electronics Technology, A.A.S.

Industrial Controls Certificate

Microcomputer Technical Support Certificate

Emergency Medical Science

Emergency Medical Science, A.A.S.

Mobile Intensive Care Technician Certificate

Emergency Medical Technician Certificate

Fashion Merchandising and Design

Fashion Merchandising, A.A.S.

Fashion Design, A.A.S.

Visual Merchandising Certificate

Fire Service Administration

Fire Services Administration, A.A.

Food and Beverage Management (see Hospitality Management)

Grounds and Turf Management

Grounds and Turf Management

Health Information Technology

Health Information Technology

Health Occupations

Cardiopulmonary Resuscitation

Certified Medication Aide

Cert Medication Aide Update

Certified Nurse Aide

Certified Nurse Aide Refresher

Dental Hygiene (see listing for Dental Hygiene)

Emergency Medical Science (see listing Emerg Medical Sci)

Home Health Aide Certificate

IV Therapy for LPN Certificate

Nursing (see listing for Nursing)

Occupational Therapy Assistant

Physical Therapist Assistant

Radiologic Technology, A.A.S.

Rehabilitative Aide Cert

Respiratory Care (see listing for Respiratory Care)

Surgical Technology Cert

Heating, Ventilation and Air Conditioning Technology

HVAC Commercial Service Technician, A.A.S.

HVAC Commercial Service Technician Certificate

HVAC Installation Technician Certificate

HVAC Residential Service Technician, A.A.S.

HVAC Residential Service Technician Certificate

Horticulture

Horticulture Certificate

Hospitality Management

Chef Apprenticeship, A.A.S.

Food and Beverage Management, A.A.S.

Food and Beverage Management Certificate

Hotel & Motel Management, A.A.S.

Information Systems (see Computer Information Systems)

Information Technology

Information Technology, A.A.S.

Network Administration: UNIX Certificate

Network Administration: Windows Certificate

Network Connectivity Certificate

Information/Word Processing (see Business Office Technology)

Interactive Media

Interactive Media, A.A.S.

Multimedia Design Certificate

Web Design Certificate

Interior Design

Interior Design, A.A.S.

Interior Design Retail Sales/Manufact Rep Certificate

Interior Entrepreneurship, A.A.S.

Interior Merchandising, A.A.S.

Interior Products Sales Representative Certificate

Interpreter Training

Interpreter Training, A.A.S.

Sign Language Communication Certificate

Legal Studies (see legal nurse consultant and paralegal)

Paralegal, A.A.

Legal Nurse Consultant Certificate

Paralegal Certificate

Marketing and Management

Marketing and Management, A.A.S.

Retail Sales Representative Certificate

Sales and Customer Relations Certificate

Teleservice Representative Certificate

Teletrac Certificate

Metal Fabrication/Welding

Metal Fabrication Technology, A.A.S.

Metal Fabrication Technology Certificate

Nursing

Nursing - Registered Nurse, A.A.S.

PN to RN Transition, A.A.S

Practical Nursing F/T Cert

Office Systems Technology (see Business Office Technology)

Paralegal (see Legal Studies)

Power Plant Technology

Power Plant Technology, A.A.S.

Power Plant Technology Certificate

Railroad Electronics

Railroad Electronics, A.A.S.

Railroad Electronics Certificate

Railroad Industrial Technology

Railroad Carman Welding Certificate

Railroad Machinist Welding Certificate

Railroad Maintenance of Way Welding Certificate

Railroad Structural Welding Certificate

Railroad Track Welding Certificate

Railroad Operations

Railroad Operations - Conductor Option, A.A.S.

Railroad Operations - General Option, A.A.S.

Railroad Operations - Mechanical Option, A.A.S.

Railroad Operations - Welding Option, A.A.S.

Respiratory Care

Respiratory Care, A.A.S.

CRT-RRT Transition, A.A.S.

Science Technology

Biotechnology, A.A.S.

Biotechnology, A.S.

Biotechnology Certificate

Supply Chain Logistics

Supply Chain Logistics Cert

Veterinary Technology

Veterinary Technology, A.A.S.

ABLE

Academic Bridges to Learning Effectiveness.

This is a nationally recognized program which teaches students with neurological disabilities, such as learning disabilities with brain injuries, how to become independent learners.

Students take courses with supplemental workshops as well as attend weekly support group meetings to build skills and confidence for college and vocational programs.

A learning disabilities specialist works with each student to design an individual curriculum. For more information, call Longview Community College, 816-672-2053,or Penn Valley Community College, 816-759-4089.

Accounting, A.A.S.

Accounting is a crucial part of every business operation and the language that businesses speak. The associate of applied science degree program focuses on practical skills often required for entry-level paraprofessional positions. The internship course gives the graduate on-the-job experience working in an approved business. Two-year graduates may find positions as accounting assistants, accounting clerks and general bookkeepers.

The accounting career program (see: www.jccc.net/home/depts/1202) is accredited by the Association of Collegiate Business Schools and Programs (ACBSP). For students wishing to transfer to a four-year college accounting or business program, this accreditation makes the transfer a smoother process. For more information, please contact the career facilitator (skleiner@jccc.net) or a JCCC counselor.

Associate of Applied Science Degree

First Semester

```
ENGL 121   COMPOSITION I*........................................3
           Social Science and/or Economics Electives...........3
ACCT 121   Accounting I........................................3
MATH 120   Business Math*......................................3
           or
MATH 171   College Algebra.....................................3
BOT  101   Computerized Keyboarding............................1
           Business Electives..................................3
           TOTAL CREDIT HOURS.................................16
```

Second Semester

```
ACCT 122   Accounting II*......................................3
BUS  150   Business Communication*.............................3
BUS  261   Business Law I......................................3
           Business Electives..................................6
BOT  115   Electronic Calculators..............................1
           TOTAL CREDIT HOURS.................................16
```

Third Semester

```
ACCT 222   Managerial Accounting*^.............................3
           or
ACCT 231   Intermediate Accounting I*^.........................3
```

```
ACCT 278   Accounting Internship I*................................1
ACCT 140   Computerized Accounting Problems*.....................3
BUS  225   Human Relations.......................................3
PHIL 138   Business Ethics.......................................1
HIST 141   U....................................................3
           Business Electives....................................2
           TOTAL CREDIT HOURS...................................16
```

Fourth Semester

```
ACCT 215   Accounting for Nonprofit Organizations*^.............3
           or
ACCT 221   Cost Accounting*^....................................3
           or
ACCT 232   Intermediate Accounting II*^.........................3
ACCT 131   Federal Income Taxes I...............................3
ACCT 135   Computerized Accounting Applications*................3
ACCT 285   Accounting Capstone*.................................3
           Business Electives...................................3
           Health and/or Physical Education Elective............1
           TOTAL CREDIT HOURS...................................16
           TOTAL PROGRAM CREDIT HOURS...........................64
```
Note: Business electives are any courses with the BUS,
BUSE or ECON prefix.

*Prerequisite/Corequisite required
Note: ^The student is required to complete two of the five
following accounting courses: ACCT 215, 221, 222,
231 or 232.

Supervision Management Certificate

The supervision management certificate is a 25-credit-hour program designed for students who desire to be or have been designated as managers. The certificate meets the basic core competencies of being a manager or a supervisor.

Marketing and Management

Vocational Certificate

```
BUS  121   Introduction to Business.............................3
BUS  140   Principles of Supervision............................3
BUS  141   Principles of Management.............................3
BUS  150   Business Communication*..............................3
BUS  230   Marketing............................................3
MKT  202   Consumer Behavior*...................................3
BUS  120   Management Attitudes and Motivation..................3
           or
BUS  225   Human Relations......................................3
MKT  234   Services Marketing*..................................3
MKT  284   Marketing and Management Internship I................1
           TOTAL PROGRAM CREDIT HOURS...........................25
```
*Prerequisite/Corequisite required

Administration of Justice, A.A.

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

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

Associate of Arts Degree

First Semester

```
ENGL 121   Composition I*........................................3
           Social Science Course**...............................3
ADMJ 121   Introduction to Administration of Justice^............3
ADMJ 124   Criminal Justice and Corrections......................3
ADMJ 127   Criminology...........................................3
           TOTAL CREDIT HOURS...................................15
```

Second Semester

```
SPD  120   Interpersonal Communications..........................3
ENGL 122   Composition II*.......................................3
PHIL 143   Ethics................................................3
ADMJ 140   Constitutional Case Law^..............................3
ADMJ 230   Criminal Behavior*....................................3
           ADMJ Program Electives................................3
           TOTAL CREDIT HOURS...................................18
```

Third Semester

```
FL   130   Elementary Spanish I..................................5
ADMJ 120   Writing Across Disciplines............................1
           ADMJ Program Electives................................3
           Science and/or Math Elective***.......................6
           TOTAL CREDIT HOURS...................................15
```

Fourth Semester

```
           Humanities Course.....................................3
           (cannot be a philosophy course)
           Social Science Course**...............................3
ADMJ 280   Criminal Justice and the Public*^.....................3
           Science and/or Math Elective***.......................3
           Health and/or Physical Education Elective.............1
           ADMJ  Program Electives...............................3
           TOTAL CREDIT HOURS...................................16
           TOTAL PROGRAM CREDIT HOURS...........................64
```

(Required Program Electives)

```
9 hours - any three courses
ADMJ 130   Crime Prevention......................................3
ADMJ 133   Juvenile Delinquency..................................3
ADMJ 141   Criminal Law*^........................................3
ADMJ 143   Crime Analysis........................................3
ADMJ 145   Fundamentals of Private Security......................3
ADMJ 146   Retail Security.......................................3
ADMJ 148   Family Violence and Sexual Abuse......................3
ADMJ 154   Fundamentals of Criminal Investigation*...............3
ADMJ 170   Introduction to Substance Abuse.......................3
ADMJ 201   Criminal Justice Communications.......................3
ADMJ 221   Introduction to Forensics*............................3
ADMJ 224   Intro to Terrorism....................................3
ADMJ 281   Readings in Police Science*...........................3
ADMJ 285   Administration of Justice Internship*.................3
```

```
*Prerequisite/Corequisite required
** You must take two courses from the following list, but
          not more than one course from each group may count
          toward the required 6 hours:
```

(Group 1:)

```
POLS 124   American National Government..........................3
```

```
POLS 126   State and Local Government..........................3
```

(Group 2:)

```
PSYC 130   Intro to Psychology.................................3
           (this is a prerequisite for ADMJ 230)
```

(Group 3:)

```
SOC  122   Introduction to Sociology...........................3
SOC  125   Social Problems.....................................3


*** You must complete a minimum of 9 hours in math and
           science.  See associate of arts general education
           requirements.


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

Associate of Applied Science: Kansas AVS/TC Articulated

This degree is designed to facilitate student transfer of technical education programs under the provisions outlined in the Transfer Agreement and Articulation Guide for Kansas Community Colleges, Area Technical Schools and Colleges for the Associate in Applied Science, dated September 1999. Specifically, this degree may be earned by a student wishing to transfer a completed eligible technical program from a Kansas area vocational technical or Kansas technical college. A student must have 15 credits from JCCC in order to receive a degree from Johnson County Community College. The 45 hours of documented transfer credit will be placed on the student's record when the student applies for graduation. Students must also meet JCCC admissions, residency and graduation requirements.

* The provisions also outline the process for transfer of individual technical course competencies if a parallel program exists at JCCC.

Interested students should contact the JCCC Student Success Center for further information prior to transfer and enrollment.

Kansas AVS/TC Articulated

```
Associate of Applied Science Degree
Sequence of Courses
TransferredAVS/TC Program.....................................45
ENGL 121   Composition I*......................................3
           Communication Elective..............................3
           Humanities Elective.................................3
           Social Science and/or Economics Electives...........3
           Science and/or Math Elective........................3
           Electives...........................................3
           Health and/or Physical Education Elective...........1
TOTAL      PROGRAM CREDIT HOURS...............................64
*Prerequisite/Corequisite required
```

Automotive Technology, A.A.S.

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

The two-year associate of applied science degree, which is certified by the ASE,

covers all major areas, including diagnosis and tune-up, chassis, electrical/electronic and hydraulic systems, automatic transmissions, engines, and emissions. Students work on developing the skills needed to advance to a supervisory position, such as customer relations, estimating materials and labor costs, and managing the work of others.

In the Kansas City area, the anticipated job growth is 20 percent by 2005. About 213 annual openings are expected to occur each year. The average hourly wage in 1996 was between $13.96 and $18.28.

Associate of Applied Science Degree

Prior to admission to the automotive technology associate of applied science degree program, the student must have:

```
AUTO 125   Introduction to Automotive Shop Practices............3
           or
           Approval of division administrator
```

First Semester

```
AUTO 163   Automotive Steering and Suspension*..................3
AUTO 234   Automotive Electrical Systems*.......................4
INDT 125   Industrial Safety....................................3
MATH 120   Business Math*.......................................3
ENGL 121   Composition I*.......................................3
           TOTAL CREDIT HOURS..................................16
```

Second Semester

```
AUTO 165   Automotive Engine Repair*............................4
AUTO 167   Automotive Brake Systems*............................2
AUTO 168   Automotive Manual Drivetrain and Axles*.............3
ENGL 123   Technical Writing I*.................................3
           Technical/Related Electives..........................3
           Health and/or Physical Education Elective............1
           TOTAL CREDIT HOURS..................................16
```

Third Semester

```
AUTO 250   Automatic Transmissions and Transaxles*..............4
AUTO 254   Automotive Engine Performance*.......................5
MFAB 127   Welding Processes....................................2
           Humanities Elective..................................3
           Social Science and/or Economics Elective............3
           TOTAL CREDIT HOURS..................................17
```

Fourth Semester

```
AUTO 230   Automotive Heating and Air Conditioning*.............3
AUTO 260   Automotive Service Management*.......................3
AUTO 261   Automotive Service Techniques*.......................3
BUS  140   Principles of Supervision............................3
           Technical/Related Electives..........................3
           TOTAL CREDIT HOURS..................................15
           TOTAL PROGRAM CREDIT HOURS..........................64
```

Technical/Related Electives

```
AUTO 121   Small Engine Service.................................3
AUTO 122   Introduction to Automotive Glass.....................3
AUTO 123   Motorcycle Maintenance and Repair...................2
AUTO 128   Automotive Parts Specialist..........................2
AUTO 130   Diesel Fundamentals*.................................2
AUTO 201   ASE Certification Seminar............................1
AUTO 210   Advanced Engine Repair*..............................3
AUTO 271   Automotive Technology Internship*....................3
```

```
AUTO 291   Independent Study.................................1-4
MATH 133   Technical Mathematics I*.............................4
PHYS 125   Technical Physics I*................................4
BUSE 142   FastTrac Business Plan..............................3
CIS  124   Intro to Computing Concepts and Applications........3
CPCA 105   Introduction to Personal Computing..................1
ELEC 120   Introduction to Electronics.........................3
RRT  165   Railroad Safety, Quality and Environment............3
INDT 155   Workplace Skills....................................1
*Prerequisite/Corequisite required
```

Automotive Technology Certificate

The automotive technology certificate program is designed to meet the needs of today's beginning and experienced auto technicians. With the completion of the certificate program, the student will have a well-rounded background in the repair required for dealership and independent service personnel. Completion of courses should assist students in preparing for ASE certification tests. Most automotive trades expect applicants to pass one or more of the ASE tests, which will enable them to qualify for technical positions in service repair.

Automotive Technology

Vocational Certificate

```
Prior to admission to the automotive technology vocational
certificate program, the student must have:

AUTO 125   Introduction to Automotive Shop Practices............3
           or
           Approval of division administrator
```

Required Courses

```
INDT 125   Industrial Safety..................................3
INDT 155   Workplace Skills...................................1
AUTO 163   Automotive Steering and Suspension*................3
AUTO 165   Automotive Engine Repair*..........................4
AUTO 167   Automotive Brake Systems*..........................2
AUTO 168   Automotive Manual Drivetrain and Axles*............3
AUTO 234   Automotive Electrical Systems*.....................4
AUTO 250   Automatic Transmissions and Transaxles*............4
AUTO 254   Automotive Engine Performance*.....................5
AUTO 230   Automotive Heating and Air Conditioning*...........3
MFAB 127   Welding Processes..................................2
           TOTAL CREDIT HOURS................................34
*Prerequisite/Corequisite required
```

Business Administration, A.A.S.

Business is more competitive than ever before. People running businesses will be judged by how well they manage change, stay ahead of trends and learn the latest theories. JCCC's business administration career program can train you in the many skills required to manage a variety of businesses.

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

Graduates have opportunities in entry-level management and supervisory positions in a variety of businesses. Johnson County's continued growth as the business center for the area means job opportunities are available.

Business Administration

Associate of Applied Science Degree

First Semester

```
ENGL 121  Composition I*........................................3
MATH 120  Business Math or higher*..............................3
BUS  121  Introduction to Business.............................3
BUS  225  Human Relations......................................3
CIS  124  Intro to Computing Concepts & Application............3
          and
          CPCA/CDTP elective...................................1

          or

          CPCA/CDTP electives..................................4
Note: CPCA 105 and 106 do not meet requirements.

CIS  134  Programming Fundamentals.............................4
          TOTAL CREDIT HOURS..................................16
```

Second Semester

```
ACCT 121  Accounting I.........................................3
BUS  141  Principles of Management.............................3
          or
BUS  145  Small Business Management............................3
BUS  150  Business Communications*.............................3
ECON 230  Economics I..........................................3
HIST 141  U....................................................3
          Health and/or Physical Education Elective............1
          TOTAL CREDIT HOURS..................................16
```

Third Semester

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

Fourth Semester

```
ACCT 222  Managerial Accounting*...............................3
BUS  123  Personal Finance.....................................3
          or
BUS  215  Savings and Investments..............................3
          or
BUS  250  Introduction to Corporate Finance....................3
BUS  263  Business Law II*.....................................3
BUS  243  Human Resource Management............................3
          or
BUS  235  Introduction to International Business................3
BIOL 130  Environmental Science................................3
          Elective.............................................1
          TOTAL CREDIT HOURS..................................16
          TOTAL PROGRAM CREDIT HOURS..........................64
```

Recommended Electives

```
BUS  120  Management Attitudes and Motivation..................3
BUS  140  Principles of Supervision............................3
*Prerequisite/Corequisite required
```

Business Entrepreneurship, A.A.S.

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

You will learn the fundamentals of starting and operating your own business. The program includes basic business skills as well as specific courses in starting and managing an entrepreneurial business. Course work covers evaluating a business opportunity, preparing a business plan, legal issues for small business, planning advertising and sales promotions, marketing a product or service, developing an accounting system and financial management for the entrepreneurial company.

You also will complete two internships in a small business. You can apply what you learn in the classroom to your job and take your work experiences back to the classroom for analysis.

Associate of Applied Science Degree

First Semester

```
BUSE 180   Opportunity Analysis................................2
ENGL 121   Composition I*.....................................3
MATH 120   Business Math or higher*...........................3
BUS  230   Marketing..........................................3
BUS  225   Human Relations....................................3
           Electives..........................................3
           TOTAL CREDIT HOURS................................17
```

Second Semester

```
BUS  145   Small Business Management..........................3
ACCT 111   Small Business Accounting..........................3
           or
ACCT 121   Accounting I.......................................3
ECON 130   Basic Economic Issues..............................3
           or
ECON 230   Economics I........................................3
           or
ECON 231   Economics II.......................................3
           or
ECON 132   Survey of Economics................................3
BUS  140   Principles of Supervision..........................3
BUSE 160   Legal Issues for Small Business....................2
MKT  133   Salesmanship.......................................3
           or
MKT  134   Creative Retail Selling............................3
           or
MKT  234   Services Marketing*................................3
           TOTAL CREDIT HOURS................................17
```

Third Semester

```
BUS  150   Business Communications*...........................3
CIS  124   Intro to Computing Concepts/Applications...........3
           and
           CPCA/CDTP elective.................................1

           or

           CPCA/CDTP electives................................4

Note: CPCA 105 and 106 do not meet requirements.
```

```
BUSE 210  Entrepreneurship Internship I*........................1
BUSE 131  Financial Management for Small Business*.............2
PHIL 138  Business Ethics.....................................1
          Health and/or Physical Education Elective...........1
          Electives..........................................3
          TOTAL CREDIT HOURS................................15
```

Fourth Semester

```
BUSE 190  Small Business Analysis*...........................2
BUSE 215  Entrepreneurship Internship II*....................1
BUSE 142  FastTrac Business Plan.............................3
HIST 141  U.................................................3
          Humanities Elective................................3
          Electives.........................................4
          TOTAL CREDIT HOURS................................16
          TOTAL PROGRAM CREDIT HOURS.......................65
```

Recommended Electives

```
BUS  120  Management Attitudes and Motivation.................3
BUS  121  Introduction to Business...........................3
BUS  123  Personal Finance..................................3
BUS  235  Introduction to International Business..............3
BUS  141  Principles of Management..........................3
BUS  243  Human Resource Management.........................3
BUS  261  Business Law I....................................3
BUS  263  Business Law II*..................................3
CPCA 105  Introduction to Personal Computers.................1
CPCA 108  Word Processing on Microcomputers I*...............1
CPCA 110  Spreadsheets on Microcomputers I*..................1
CPCA 111  Spreadsheets on Microcomputers II*.................1
CPCA 114  Databases on Microcomputers I*.....................1
CPCA 115  Databases on Microcomputers II*....................1
CPCA 141  Internet I*.......................................1
CPCA 151  Internet II*......................................1
FASH 132  Marketing Communications..........................3
FASH 231  Merchandising Planning and Control*................3
HMGT 121  Perspectives Hospitality Management................3
MKT  121  Retail Management.................................3
SPD  120  Interpersonal Communications......................3
SPD  121  Public Speaking...................................3
*Prerequisite/Corequisite required
```

Business Entrepreneurship Certificate

Students in business entrepreneurship certificate programs learn the fundamentals of starting and operating their own businesses. Course work includes evaluating a business idea, preparing a business plan, financial management, legal issues, marketing a product or service and developing an accounting system.

Vocational Certificate

First Semester

```
ACCT 111  Small Business Accounting..........................3
          or
ACCT 121  Accounting I......................................3
BUSE 180  Opportunity Analysis..............................2
BUS  230  Marketing.........................................3
CIS  124  Intro to Computing Concepts and Application........3


          or


          CPCA/CDTP electives...............................3
```

```
Note: CPCA 105 and 106 do not meet requirements.


MATH 120   Business Math or higher*.............................3
           Electives...........................................3
           TOTAL CREDIT HOURS.................................17
```

Second Semester

```
BUS  145   Small Business Management...........................3
BUSE 131   Financial Management Small Business*................2
BUSE 160   Legal Issues for Small Businesses...................2
BUSE 190   Small Business Analysis*............................2
BUSE 210   Entrepreneurship Internship I*......................1
           or
BUSE 215   Entrepreneurship Internship II*.....................1
BUSE 142   FastTrac Business Plan..............................3
MKT  133   Salesmanship........................................3
           or
MKT  134   Creative Retail Selling.............................3
           or
MKT  234   Services Marketing*.................................3
           TOTAL CREDIT HOURS.................................16
           TOTAL PROGRAM CREDIT HOURS.........................33
*Prerequisite/Corequisite required
```

Business Plan Certificate

The business plan certificate program focuses on evaluating an idea for a business and concludes with writing a business plan to start and/or grow a business.

Vocational Certificate

```
BUSE 180   Opportunity Analysis................................2
BUSE 142   FastTrac Business Plan..............................3
           TOTAL PROGRAM CREDIT HOURS..........................5
```

Administrative Assistant, A.A.S.

This degree program prepares students for positions as supervisors and managers in automated office environments. Emphasis is on the development of communications, decision-making, organizational and management skills; and knowledge of software options, hardware components, applications and concepts. This program is designed to prepare you to function in the electronic office by using a mix of vocational, technical and academic training.

Business Office Technology

Associate of Applied Science Degree

Administrative Assistant

First Semester

```
MATH 120   Business Math*......................................3
ENGL 121   Composition I*......................................3
BOT  110   Skillbuilding I*....................................1
BOT  155   Word Processing Applications I*.....................2
BOT  130   Office Systems Concepts.............................3
BUS  225   Human Relations.....................................3
CPCA 114   Databases on Microcomputers I*......................1
           Health and/or Physical Education Elective...........1
           TOTAL CREDIT HOURS.................................17
```

Second Semester

```
ACCT 121   Accounting I.........................................3
CPCA 110   Spreadsheets on Microcomputers I*....................1
ELEC 124   Microcomputer Hardware*..............................3
BUS  121   Introduction to Business.............................3
BOT  125   Document Formatting*.................................1
BOT  150   Records Management...................................3
CPCA 138   Windows for Microcomputers*..........................1
           TOTAL CREDIT HOURS..................................15
```

Third Semester

```
BUS  122   Introduction to Law..................................3
CPCA 118   Groupware*...........................................1
CPCA 141   Internet I*..........................................1
BUS  140   Principles of Supervision............................3
           or
BUS  141   Principles of Management.............................3
BOT  255   Word Processing Applications II*.....................2
BUS  150   Business Communications*.............................3
CPCA 123   Presentation Graphics I*.............................1
           Humanities Elective..................................3
           TOTAL CREDIT HOURS..................................17
```

Fourth Semester

```
ECON 130   Basic Economic Issues................................3
           or
ECON 230   Economics I..........................................3
BOT  275   Office Internship I*.................................1
BUS  243   Human Resource Management............................3
BOT  265   Computerized Office Applications*....................3
BOT  260   Desktop Publishing for the Office*...................3
           BOT Electives........................................3
           TOTAL CREDIT HOURS..................................16
           TOTAL PROGRAM CREDIT HOURS..........................65
```

BOT Electives

```
BOT  103   Business English.....................................3
BOT  118   Skillbuilding II*....................................1
BOT  175   Conflict in the Workplace............................1
BOT  180   Business Spreadsheet Applications*...................1
BOT  185   Business Database Applications*......................1
BOT  205   Professional Image Development.......................1
BOT  210   Working in Teams.....................................1
BOT  280   Office Internship II*................................1
*Prerequisite/Corequisite required
```

Administrative Assistant with Legal Emphasis, A.A.S.

This degree program prepares students for administrative duties in the law office and other legal settings. The program combines training in the latest technical computer skills with specialized course work unique to the legal profession, including exposure to legal practices, preparation, and practical application of documents and terminology used in the legal office.

Business Office Technology

Associate of Applied Science Degree

First Semester

```
BUS  122   Introduction to Law..................................3
BOT  155   Word Processing Applications I*......................2
```

```
BOT  130  Office Systems Concepts...............................3
ENGL 121  Composition I*.......................................3
CPCA 138  Windows for Microcomputers*..........................1
BOT  115  Electronic Calculators...............................1
CPCA 114  Databases on Microcomputers I*.......................1
          Health and/or Physical Education Elective............1
          BOT Elective.........................................1
          TOTAL CREDIT HOURS..................................16
```

Second Semester

```
BOT  110  Skillbuilding I*.....................................1
BOT  150  Records Management...................................3
MATH 120  Business Math*.......................................3
ACCT 111  Small Business Accounting............................3
          or
ACCT 121  Accounting I.........................................3
BOT  125  Document Formatting*.................................1
BOT  160  Legal Transcription*.................................3
CPCA 118  Groupware*...........................................1
          BOT Elective.........................................1
          TOTAL CREDIT HOURS..................................16
```

Third Semester

```
LAW  223  Computer Applications in the Law Office*.............3
BUS  150  Business Communications*.............................3
BUS  225  Human Relations......................................3
BOT  255  Word Processing Applications II*.....................2
CPCA 141  Internet I*..........................................1
CPCA 110  Spreadsheets on Microcomputers I*....................1
          BOT Electives........................................3
          TOTAL CREDIT HOURS..................................16
```

Fourth Semester

```
ECON 130  Basic Economic Issues................................3
          or
ECON 230  Economics I..........................................3
BOT  275  Office Internship I*.................................1
BOT  265  Computerized Office Applications*....................3
BUS  140  Principles of Supervision............................3
          or
BUS  141  Principles of Management.............................3
          Humanities Elective..................................3
          General Electives....................................3
          TOTAL CREDIT HOURS..................................16
          TOTAL PROGRAM CREDIT HOURS..........................64
```

BOT Electives

```
BOT  103  Business English.....................................3
BOT  118  Skillbuilding II*....................................1
BOT  175  Conflict in the Workplace............................1
BOT  180  Business Spreadsheet Applications*...................1
BOT  185  Business Database Applications*......................1
BOT  205  Professional Image Development.......................1
BOT  210  Working in Teams.....................................1
BOT  280  Office Internship II*................................1
*Prerequisite/Corequisite required
```

Administrative Assistant with Medical Emphasis, A.A.S.

This degree program prepares students to pursue an administrative career in the medical profession. The program combines training in the latest technical and

computer skills with specialized course work unique to the medical profession. Beginning students and employed medical personnel will find this program invaluable for career advancement.

Business Office Technology

Associate of Applied Science Degree

First Semester

```
AAC  130  Medical Terminology.................................3
ENGL 121  Composition I*.....................................3
BOT  155  Word Processing Applications I*....................2
BOT  130  Office Systems Concepts............................3
CPCA 138  Windows for Microcomputers*.......................1
CPCA 118  Groupware*........................................1
CPCA 114  Databases on Microcomputers I*....................1
          Health and/or Physical Education Elective..........1
          BOT Elective......................................1
          TOTAL CREDIT HOURS................................16
```

Second Semester

```
BOT  110  Skillbuilding I*..................................1
BOT  170  Medical Coding and Billing*.......................3
BOT  150  Records Management................................3
BOT  125  Document Formatting*..............................1
MATH 120  Business Math*....................................3
BUS  225  Human Relations...................................3
BOT  115  Electronic Calculators............................1
          BOT Elective......................................1
          TOTAL CREDIT HOURS................................16
```

Third Semester

```
ACCT 111  Small Business Accounting.........................3
          or
ACCT 121  Accounting I......................................3
BUS  122  Introduction to Law...............................3
BUS  150  Business Communications*..........................3
BOT  255  Word Processing Applications II*...................2
CPCA 110  Spreadsheets on Microcomputers I*.................1
CPCA 141  Internet I*.......................................1
          Humanities Elective...............................3
          TOTAL CREDIT HOURS................................16
```

Fourth Semester

```
ECON 130  Basic Economic Issues.............................3
          or
ECON 230  Economics I.......................................3
BOT  165  Medical Transcription*............................3
BOT  265  Computerized Office Applications*.................3
BOT  275  Office Internship I*..............................1
BUS  140  Principles of Supervision.........................3
          or
BUS  141  Principles of Management..........................3
          BOT Electives.....................................3
          TOTAL CREDIT HOURS................................16
          TOTAL PROGRAM CREDIT HOURS........................64
```

BOT Electives

```
BOT  103  Business English..................................3
BOT  118  Skillbuilding II*.................................1
BOT  175  Conflict in the Workplace.........................1
BOT  180  Business Spreadsheet Applications*................1
BOT  185  Business Database Applications*...................1
```

```
BOT  205   Professional Image Development.......................1
BOT  210   Working in Teams....................................1
BOT  280   Office Internship II*...............................1
*Prerequisite/Corequisite required
```

Administrative Support Specialist Certificate

The administrative support specialist certificate prepares students for executive and/or administrative assistant duties in the office. The program provides training in the latest technical, computer and software skills.

Business Office Technology

Vocational Certificate

```
BOT  110   Skillbuilding I*....................................1
BOT  130   Office Systems Concepts.............................3
BOT  125   Document Formatting*................................1
CPCA 110   Spreadsheets on Microcomputers I*...................1
CPCA 114   Databases on Microcomputers I*......................1
CPCA 138   Windows for Microcomputers*.........................1
BUS  225   Human Relations.....................................3
BOT  155   Word Processing Applications I*.....................2
BOT  115   Electronic Calculators..............................1
BOT  120   Machine Transcription*..............................1
BOT  150   Records Management..................................3
CPCA 118   Groupware*..........................................1
CPCA 141   Internet I*.........................................1
BOT  255   Word Processing Applications II*....................2
BOT  265   Computerized Office Applications*...................3
BOT  260   Desktop Publishing for the Office*.................3
BOT  275   Office Internship I*................................1
           BOT Electives......................................2
           TOTAL PROGRAM CREDIT HOURS........................31
```

BOT Electives

```
BOT  103   Business English....................................3
BOT  118   Skillbuilding II*...................................1
BOT  175   Conflict in the Workplace...........................1
BOT  180   Business Spreadsheet Applications*..................1
BOT  185   Business Database Applications*.....................1
BOT  205   Professional Image Development......................1
BOT  210   Working in Teams....................................1
BOT  280   Office Internship II*...............................1
*Prerequisite/Corequisite required
```

Medical Office Assistant Certificate

This certificate program is designed for students who want to work in doctors' offices and hospital offices. This program will provide training for students going into entry-level positions or those upgrading existing skills.

Business Office Technology

Vocational Certificate

Required Courses

```
AAC  130   Medical Terminology.................................3
BOT  103   Business English....................................3
BOT  110   Skillbuilding I*....................................1
BOT  125   Document Formatting*................................1
BOT  155   Word Processing Application I*......................2
BOT  165   Medical Transcription*..............................3
```

```
BOT  170   Medical Coding and Billing*..........................3
           TOTAL PROGRAM CREDIT HOURS...........................16
           CREDIT HOURS.........................................16
*Prerequisite/Corequisite required
```

Medical Transcription Certificate

The certificate program will prepare the student for entry-level employment as a medical transcriptionist by providing the basic knowledge and skills required to transcribe medical dictation with accuracy and clarity, meet timelines, and apply the principles of professional and ethical conduct.

Business Office Technology

Vocational Certificate

```
BOT  122   Medical Keyboarding*.................................1
BOT  130   Office Systems Concepts..............................3
BOT  155   Word Processing Applications I*......................2
BOT  255   Word Processing Applications II*.....................2
BOT  103   Business English....................................3
AAC  130   Medical Terminology.................................3
BOT  165   Medical Transcription*..............................3
BOT  270   Advanced Medical Transcription*.....................3
BOT  170   Medical Coding and Billing*.........................3
BOT  220   Pharmacology Terminology*...........................2
BIOL 140   Human Anatomy.......................................4
BOT  275   Office Internship I*................................1
           TOTAL PROGRAM CREDIT HOURS.........................30
*Prerequisite/Corequisite required
```

Office Careers Certificate

At the completion of this 18–credit-hour certificate, students demonstrate proficiency in office skills, including computer and word processing knowledge. This certificate program prepares students to enter an office career in a minimal time period.

Business Office Technology

Vocational Certificate

```
BOT  103   Business English....................................3
BOT  105   Keyboarding/Formatting I............................3
BOT  110   Skillbuilding I*....................................1
BOT  125   Document Formatting*................................1
BOT  130   Office Systems Concepts.............................3
BOT  155   Word Processing Applications I*.....................2
BOT  115   Electronic Calculators..............................1
BOT  120   Machine Transcription*..............................1
           TOTAL PROGRAM
           CREDIT HOURS.......................................15
*Prerequisite/Corequisites required
```

Owning/Managing a Virtual Home Office Certificate

The certificate provides the opportunity for students to add competencies in the area of entrepreneurship, business planning and managing as well as Web page creation and desktop publishing skills.

Prerequisite: Completion of the virtual home office certificate (first and second semester courses) as well as BOT 105.

Vocational Certificate

(First and second semester courses)

```
BUSE 142   FastTrac Business Plan...............................3
BUSE 180   Opportunity Analysis................................2
BUS  230   Marketing...........................................3
BUS  145   Small Business Management...........................3
CPCA 161   Introduction to Web Pages*..........................1
BOT  260   Desktop Publishing for the Office*..................3
           TOTAL PROGRAM CREDIT HOURS.........................15
*Prerequisite/corequisite required
```

Virtual Home Office Certificate

The certificate is designed for students conducting all or part of their job duties in a remote location or home office as well as students seeking career opportunities where they can work from a home office.

Business Office Technology

Vocational Certificate

First Semester

```
CPCA 105   Introduction to Personal Computers..................1
BOT  130   Office Systems Concepts.............................3
BOT  103   Business English...................................3
BOT  155   Word Processing Applications I*.....................2
CPCA 141   Internet I*........................................1
ACCT 111   Small Business Accounting..........................3
CPCA 110   Spreadsheets on Microcomputers I*..................1
```

Second Semester

```
CPCA 151   Internet II*.......................................1
BOT  275   Office Internship I*...............................1
BOT  255   Word Processing Applications II*....................2
CPCA 114   Databases on Microcomputers I......................1
           TOTAL PROGRAM CREDIT HOURS.........................19
*Prerequisite/Corequisite required
```

Virtual Medical Office Certificate

The certificate is designed for students working or planning to work in the medical business office from a remote location or their home.

Vocational Certificate

```
BOT  165   Medical Transcription*.............................3
AAC  130   Medical Terminology................................3
BOT  170   Medical Coding and Billing*........................3
BIOL 140   Human Anatomy......................................4
BOT  270   Advanced Medical Transcription*....................3
           TOTAL PROGRAM CREDIT HOURS.........................16
```

(Business Office Technology Electives)

```
BOT  103   Business English...................................3
BOT  118   Skillbuilding II*..................................1
BOT  175   Conflict in the Workplace..........................1
BOT  180   Business Spreadsheet Applications*.................1
BOT  185   Business Database Applications*....................1
BOT  205   Professional Image Development.....................1
```

```
BOT  210  Working in Teams......................................1
BOT  280  Office Internship II*.................................1
*Prerequisite/Corequisite required
```

Civil Engineering Technology, A.A.S.

Civil engineering technicians use theory and practical application in planning, designing, construction, inspecting and maintaining civil engineering projects. These projects include roadways, buildings, sanitary sewers, treatment plants, power distribution, bridges and land development.

JCCC's civil engineering technology program offers a broad base of instruction in mathematics, engineering design, drawing interpretation, computer-aided drafting, construction methods and communication skills. The program will qualify graduates for a variety of entry-level positions in design firms, construction companies or public agencies. Successful completion of 66 hours from the civil engineering technology curriculum will lead to an associate of applied science degree.

Civil Engineering Technology

Associate of Applied Science Degree

First Semester

```
DRAF 129  Interpreting Architectural Drawings...................2
ENGR 131  Engineering Graphics I*...............................4
MATH 133  Technical Mathematics I*..............................4
          or
MATH 171  College Algebra*......................................3
          and
MATH 172  Trigonometry*.........................................3
          or
MATH 173  Precalculus*..........................................5
CET  125  Construction Specifications*..........................2
CET  105  Construction Methods..................................3
          Health/Physical Education Elective....................1
          TOTAL CREDIT HOURS...............................15-17
```

Second Semester

```
CET  129  Construction Management...............................3
DRAF 225  Civil Drafting*.......................................3
ENGL 121  Composition I*........................................3
PHYS 125  Technical Physics I*..................................4
          or
PHYS 130  General Physics I*....................................5
          or
PHYS 220  Engineering Physics I*................................5
MATH 134  Technical Mathematics II*.............................5
          or
MATH 181  Statistics*...........................................3
          or
MATH 225  Math as a Decision Making Tool*.......................3
          or
MATH 241  Calculus I*...........................................5
          TOTAL CREDIT HOURS...............................16-19
```

Third Semester

```
CET  127  Construction Estimating*..............................3
CET  211  Technical Statics and Design*.........................3
ENGR 180  Engineering Land Surveying I*.........................3
          Technical Electives...................................3
ENGL 123  Technical Writing I*..................................3
          TOTAL CREDIT HOURS.................................15
```

Fourth Semester

```
CET  140   Civil Engineering Materials*........................3
CET  270   Fluid Mechanics*....................................3
DRAF 252   Structural Drafting*................................3
           Humanities Elective.................................3
           Social Science/Economics Elective...................3
           Technical Electives.................................3
           TOTAL CREDIT HOURS.................................18
           TOTAL PROGRAM CREDIT HOURS.........................64
```

(Approved Technical Electives)

```
BIOL 130   Environmental Science Lecture.......................3
BIOL 131   Environmental Science Lab*..........................1
CET  120   Engineered Plumbing Systems I.......................3
CET  122   Engineered Plumbing Systems II......................3
CPCA 105   Introduction to Personal Computers..................1
CPCA 108   Word Processing on Microcomputers I*................1
CPCA 110   Spreadsheets on Microcomputers I*...................1
CPCA 114   Databases on Microcomputers I*......................1
CPCA 121   Introduction to Project Management*.................1
CPCA 128   Personal Computer Applications......................3
CPCA 138   Windows for Microcomputers*.........................1
DRAF 140   Topics in CAD I.....................................2
DRAF 230   Intermediate CAD....................................3
DRAF 231   Computer-aided Drafting 3-D*........................3
DRAF 242   Topics in CAD II*...................................2
GEOS 130   General Geology.....................................5
GEOS 140   Physical Geography Lecture..........................3
GEOS 141   Physical Geography Lab*.............................2
HVAC 155   Workplace Skills....................................1
INDT 125   Industrial Safety...................................3
*Prerequisite/Corequisite required
```

Construction Management Certificate

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

Civil Engineering Technology

Vocational Certificate

First Semester

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

Second Semester

```
CET  125   Construction Specifications*........................2
CET  127   Construction Estimating*............................3
CET  129   Construction Management.............................3
           Management Electives................................4
           Computer Electives..................................3
           TOTAL CREDIT HOURS.................................15
```

```
                    TOTAL PROGRAM CREDIT HOURS.........................29
```

(Approved Management Electives)

```
BUS  141   Principles of Management..............................3
BUS  145   Small Business Management.............................3
BUS  243   Personnel Management..................................3
BUS  261   Business Law I.......................................3
BUSE 131   Financial Management for Small Business*.............2
BUSE 160   Legal Issues for Small Business......................2
```

(Approved Computer Electives)

```
CPCA 105   Introduction to Personal Computers...................1
CPCA 108   Word Processing on Microcomputers I*.................1
CPCA 110   Spreadsheets on Microcomputers I*....................1
CPCA 114   Databases on Microcomputers I*.......................1
CPCA 121   Introduction to Project Management*..................1
CPCA 128   Personal Computer Applications.......................3
CPCA 138   Windows for Microcomputers*..........................1
*Prerequisite/Corequisite required
```

Engineered Plumbing Systems Certificate

This certificate is designed to address the needs of engineers and technicians in the plumbing design industry. Successful completion of this certificate will help the student prepare for the Certified in Plumbing Engineering (CIPE) examination.

Civil Engineering Technology

Vocational Certificate

First Semester

```
CET  120   Engineered Plumbing Systems I........................3
```

Second Semester

```
CET  122   Engineered Plumbing Systems II.......................3
CET  270   Fluid Mechanics*.....................................3
           TOTAL PROGRAM CREDIT HOURS...........................9
*Prerequisite/Corequisite required
```

Communication Design, A.A.S.

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

Demonstrated abilities are most often the key to obtaining a position in the communication design field. JCCC has structured its communication design program to help the student develop a comprehensive portfolio. The student's work will be critiqued by a team of professionals every semester. These professionals working in the field, along with the faculty, will help develop the student's skills in creative problem solving and in the use of materials, processes, tools and equipment. Outstanding studio and computer facilities are available for working on class projects. The two-year curriculum consisting of 69 credit hours leads to an associate of applied science degree.

Associate of Applied Science Degree

Transformation Semester

```
ART  124  Design 2D.........................................3
CD   120  Introduction to Communication Design..............3
CDTP 131  Desktop Publishing I..............................1
          TOTAL CREDIT HOURS................................7
```

First Semester--Fall

```
ART  129  Design Color......................................3
CD   130  Drawing and Media Methods 1*......................3
CD   132  Typography*.......................................3
PHOT 121  Fundamentals of Photography.......................3
ENGL 121  Composition I*....................................3
          TOTAL CREDIT HOURS...............................15
```

Second Semester--Spring

```
ART  127  Design 3D*........................................3
CD   131  Drawing and Media Methods 2*......................3
CD   134  Layout Design*....................................3
CD   140  Technical Processes*..............................3
          Humanities Electives..............................3
          TOTAL CREDIT HOURS...............................15
```

Third Semester--Fall

```
CIM  135  Digital Imaging and Video*........................3
          or
PHOT 123  Studio Photography*...............................3
CD   230  Drawing and Media Methods 3*......................3
CD   231  Advanced Typography*..............................3
CD   235  Production Methods*...............................3
          Social Science and/or Economics Elective..........3
          Health and/or Physical Education Elective.........1
          TOTAL CREDIT HOURS...............................16
```

Fourth Semester--Spring

```
CD   236  Electronic Production*............................3
CD   244  Communication Systems*............................3
CD   245  Advanced Design Practice*.........................3
CD   272  Professional Preparation*.........................3
          Science and/or Math Elective......................3
          Technical/Studio Elective.........................1
          TOTAL CREDIT HOURS...............................16
          TOTAL PROGRAM CREDIT HOURS.......................69
```

Technical/Studio Electives

```
CDTP 151  Desktop Publishing II.............................1
CDTP 171  Desktop Publishing III............................1
CDTP 135  Desktop Photo Manipulation I......................1
CDTP 145  Desktop Illustration I............................1
CDTP 155  Desktop Photo Manipulation II.....................1
CDTP 165  Desktop Illustration II...........................1
CDTP 185  Desktop Illustration III..........................1
CWEB 105  Intrduction to Web Pages..........................1
CWEB 115  Intermediate Web Pages............................1
CWEB 130  Introduction to Flash.............................1
CPCA 123  Presentation Graphics*............................1
PHOT 122  Advanced Photography*+............................3
PHOT 127  Color Photography*+...............................3
CIM  135  Electronic Photography/Digital Video*.............3
ART  135  Painting I........................................3
ART  136  Painting II*......................................3
ART  172  Watercolor Painting...............................3
ART  231  Life Drawing I*...................................3
ART  232  Life Drawing II*..................................3
CD   275  Communication Design Internship*^.................1
```

```
*Prerequisite/Corequisite required
Note: ^A communication design major may apply to this
internship course if the student is also enrolled in or has
completed all fourth-semester studio courses.
+Could be taken in the second year--anytime after
completion of PHOT 121.
```

Computer Information Systems, A.A.S.

Employment opportunities for programmer analysts continue to grow as the need for sophisticated information systems increases in the business environment. Increased demand will focus on the areas of object-oriented programming, database management and client-server applications.

JCCC's information systems program focuses on developing the skills needed for entry-level programmer analysts and related positions. The associate of applied science degree in information systems offers an integrated program of study designed to prepare professionals with skills that are equally applicable to the different hardware platforms: microcomputer, mainframe computer or minicomputer. With its emphasis on practical experience and on currency in the areas of software and curriculum, the program has much to offer the information systems professional who wishes to upgrade or broaden his or her knowledge of the field.

The associate of applied science degree is awarded for successful completion of 69 or 70 credit hours.

Computer and Information Systems Department

Associate of Applied Science Degree

```
Prior to admission to the information systems program, the
student must take the following prerequisite or have taken
an equivalent transfer course:

CIS  134   Programming Fundamentals.............................4
```

Required Courses

First Semester

```
CS   200   Concepts of Programming Algorithms Using C++*........4
           or
CS   205   Concepts of Programming Algorithms Using JAVA*.......4
CIM  133   Screen Design*.......................................4
ACCT 121   Accounting I.........................................3
ENGL 121   Composition I*.......................................3
MATH 171   College Algebra*.....................................3
           or
           Any Precalculus/Calculus Course*.....................3
           TOTAL CREDIT HOURS..................................17
```

Second Semester

```
           Level One Programming Language
           Option...............................................4
CS   210   Discrete Structures I*...............................3
CIS  162   Database Programming*................................4
CIS  242   Introduction to System Design and Analysis*..........3
SPD  125   Personal Communication...............................3
           or
ENGL 123   Technical Writing I*.................................3
           TOTAL CREDIT HOURS..................................17
```

Third Semester

```
           Level Two Programming Language
           Option...............................................4
```

```
CIS  258  Operating Systems*...............................3
          or
CIS  204  UNIX Operating System*...........................3
          CIS Elective.....................................3-4
          Humanities/Art Elective..........................3
          Social Science and/or Economic Electives.........3
          Health and/or Physical Education Elective........1
          TOTAL CREDIT HOURS...............................17-18
```

Fourth Semester

```
          Level Three Programming Language
          Option...........................................4
CIS  264  Application Development and Programming*..........4
CIS  260  Database Management*.............................4
CIS  262  Project Management*..............................3
          CIS Elective.....................................3
          TOTAL CREDIT HOURS...............................18
          TOTAL PROGRAM CREDIT HOURS.......................69-70
          Each student should select one option area from the
          following list.
          All three levels of programming language
          must be from the same option area.


Level One Programming Language Options:

Option in C++:

CIS  235  Object-oriented Programming Using C++*...........4
          or
CS   250  Basic Data Structures Using C++*.................4
Option in COBOL:

CIS  148  COBOL I*.........................................4
CIS  140  Editor for COBOL*................................1
Option in JAVA:

CS   255  Basic Data Structures Using JAVA*................4
Option in VISUAL BASIC:

CIS  138  Visual Basic.....................................4


Level Two Programming Language Options:

Option in C++:

CIS  235  Object-oriented Programming Using C++*...........4
          or
CS   250  Basic Structures Using C++*......................4
Option in COBOL:

CIS  248  COBOL II*........................................4
Option in JAVA:

CIS  240  Advanced Topics in JAVA I*.......................4
Option in VISUAL BASIC:

CIS  238  Visual Basic Intermediate Topics*................4


Level Three Programming Language Options:

Option in C++:

CIS  269  GUI Programming*.................................4
Option in COBOL:

CIS  253  CICS*............................................4
Option in JAVA:
```

```
CIS  280  Advanced Topics in JAVA II*.........................4
Option in VISUAL BASIC:

CIS  277  Active Server Pages................................4


Six to eight hours of computer information systems electives
are to be selected from the following list:

CS   200  Concepts of Programming Algorithms Using C++*........4
CS   201  Concepts of Programming Algorithms Using C...........4
CS   205  Concepts of Programming Algorithms Using JAVA*.......4
CS   250  Basic Data Structures Using C++*.....................4
CS   255  Basic Data Structures Using JAVA*....................4
CS   211  Discrete Structures II*..............................3
CIS  138  Visual Basic.........................................4
CIS  145  Assembler Language for Microcomputers*...............4
CIS  148  COBOL I*^............................................4
CIS  150  Assembler Language I*................................4
CIS  204  UNIX Operating Systems*^.............................3
CIS  206  Programming in PERL*.................................4
CIS  215  OS/VS Job Control Language*..........................3
CIS  235  Object-oriented Programming Using C++*...............4
CIS  238  Visual Basic Intermediate Topics*....................4
CIS  240  Advanced Topics in JAVA I*...........................4
CIS  243  Object-oriented Analysis and Design*^................4
CIS  244  Advanced Topics in C++*..............................4
CIS  248  COBOL II*............................................4
CIS  253  CICS*................................................4
CIS  254  Unix System Administration*..........................4
CIS  258  Operating Systems*^..................................3
CIS  269  GUI Programming*.....................................4
CIS  270  Information Systems Internship*^.....................3
CIS  275  Web-enabled Database Programming*....................4
CIS  277  Active Server Pages..................................4
CIS  280  Advanced Topics in JAVA II*..........................4
CFOR 150  Introduction to Computer Forensics*..................3
IT   200  Networking Technologies..............................3
IT   210  Network Administration...............................3
*Prerequisite/Corequisite required
         ^ recommended electives
```

Database Certificate

Completion of this certificate, offered through the computer information systems
program, will help to prepare students for future careers as database specialists
or for one of many other information systems careers in which knowledge of
database concepts, products and technologies is important. Students will be able
to design and build personal databases using Access. The student will acquire a
strong foundational knowledge in an object-oriented programming language
(Visual Basic) and will work with Web-enabled databases, SQL and other
database products, as well as attaining formal systems analysis and design skills.

Computer and Information Systems Department

Vocational Certificate

```
Prior to admission in the database vocational certificate
program the student must take the following prerequisite
or have taken an equivalent transfer course:

CPCA 105  Introduction to Personal Computers...................1
```

First Semester

```
CIS  134  Programming Fundamentals.............................4
CPCA 114  Databases on Microcomputers I*.......................1
CPCA 115  Databases on Microcomputers II*......................2
```

```
CPCA 141   Internet I*..........................................1
           TOTAL CREDIT HOURS...................................8
```

Second Semester

```
CPCA 138   Windows for Microcomputers*..........................1
CIS  138   Visual Basic.........................................4
CWEB 135   Web Databases I using Access*........................1
CWEB 145   Web Databases II using Access*.......................1
CPCA 117   Databases on Microcomputers III*.....................1
           TOTAL CREDIT HOURS...................................8
```

Third Semester

```
CIS  238   Visual Basic Intermediate Topics*....................4
CIS  162   Database Programming*................................4
           TOTAL CREDIT HOURS...................................8
```

Fourth Semester

```
CIS  260   Database Management*.................................4
CIS  242   Introduction to Systems Design and Analysis*.........3
           TOTAL CREDIT HOURS...................................7
           TOTAL PROGRAM CREDIT HOURS..........................31
*Prerequisite/Corequisite required
```

Desktop Publishing Certificate

Individuals with or without a college degree whose goal is to acquire or improve their personal desktop computer application skills will accomplish that goal in this program. Emphasis is on acquiring results-oriented career business and industry skills. The program is intended for those seeking entry-level positions as well as those currently employed who want to enhance their job skills. It provides current employers or prospective employers tangible evidence of computer competency. Application courses for the certificate are based on a combination of the Windows and Macintosh operating environments. Students will be encouraged to develop a cross-platform mastery.

Computer and Information Systems Department

Vocational Certificate

Required Courses

```
CPCA 105   Introduction to Personal Computing...................1
CPCA 106   Introduction to Personal Computing...................1
CPCA 134   Managing Your Macintosh*............................1
           or
CPCA 138   Windows for Microcomputers*.........................1
CPCA 123   Presentation Graphics...............................1
CDTP 135   Desktop Photo Manipulation I........................1
CDTP 155   Desktop Photo Manipulation II.......................1
CDTP 145   Desktop Illustration I..............................1
CDTP 165   Desktop Illustration II.............................1


Select six courses of the following eleven:

CDTP 140   Desktop Publishing I................................1
CDTP 160   Desktop Publishing II...............................1
CDTP 131   Desktop Publishing I................................1
CDTP 151   Desktop Publishing II...............................1
CDTP 171   Desktop Publishing III..............................1
CDTP 175   Desktop Photo Manipulation III......................1
CDTP 180   Photoshop for the Web...............................1
CDTP 185   Desktop Illustration III............................1
CPCA 108   Word Processing on Microcomputers I*................1
```

```
CPCA 125  Word Processing on Microcomputers II*................1
CPCA 134  Managing Your Macintosh*..............................1
          or
CPCA 138  Windows for Microcomputers*..........................1
          TOTAL PROGRAM CREDIT HOURS.........................14
*Prerequisite/Corequisite required
```

Mainframe Programmer Analyst Certificate

Prior to admission to the mainframe programmer/analyst vocational certificate program, the student must take the following prerequisite or have taken an equivalent transfer course.

Computer and Information Systems Department

Vocational Certificate

```
Prerequisite:

CIS  134  Programming Fundamental.............................4
```

Required Courses

First Semester

```
CIS  140  Editor for COBOL*...................................1
CIS  148  COBOL I*...........................................4
          TOTAL CREDIT HOURS.................................5
```

Second Semester

```
CS   200  Concepts of Programming Algorithms Using C++*........4
CIS  242  Introduction to System Design and Analysis*.........3
CIS  248  COBOL II*..........................................4
          TOTAL CREDIT HOURS................................11
```

Third Semester

```
CIS  253  CICS*..............................................4
CIS  258  Operating Systems*.................................3
CIS  260  Database Management*...............................4
CPCA 121  Introduction to Project Management*.................1
          TOTAL CREDIT HOURS................................12
          TOTAL PROGRAM CREDIT HOURS.........................28
*Prerequisite/Corequisite required
```

Microcomputer Programmer Analyst Certificate

Prior to admission to the microcomputer programmer/analyst vocational certificate program, the student must take the following prerequisite or have taken an equivalent transfer course, have passed the waiver test, or have obtained a waiver from the program administrator.

Computer and Information Systems Department

Vocational Certificate

First Semester

```
CS   200  Concepts of Programming Algorithms Using C++.........4
          or
CS   205  Concepts of Programming Algorithms Using JAVA........4
CS   210  Discrete Structures................................3
CIS  162  Database Programming...............................4
```

```
                 TOTAL CREDIT HOURS.................................11
```

Second Semester

```
CIS   235   Object-Oriented Programming Using C++*..............4
            or
CS    250   Basic Data Structures Using C++**...................4
            or
CS    255   Basic Data Structures Using Java....................4
CIS   242   Introduction to System Design and Analysis*.........4
            or
CIS   243   Object-Oriented Analysis and Design.................4
CIS   204   Unix Operating System and PERL......................3
            TOTAL CREDIT HOURS.............................10-11
```

Third Semester

```
CIS   269   GUI Programming.....................................4
            or
CIS   240   JAVA I.............................................4
CPCA  121   Introduction to Project Management..................1
CIS   260   Database Management.................................4
            TOTAL CREDIT HOURS..................................9
            TOTAL PROGRAM CREDIT HOURS.....................30-31
```

```
Note: * CS 200 students must take either CS 250 or CIS 235
** CS 205 students must take CS 255
```

Personal Computer Applications Certificate

Individuals with or without a college degree whose goal is to acquire or improve their personal computer application skills will accomplish their goals in this program. Emphasis is on acquiring results-oriented career business and industry skills. The program is intended for those seeking entry-level positions as well as those currently employed who desire to enhance their job skills and take MOUS (Microsoft Office User Specialist) certification tests. It provides employers and current prospective employees with tangible evidence of computer competencies.

Computer and Information Systems Department

Vocational Certificate

Required Courses

First Semester

```
CPCA 105   Introduction to Personal Computers...................1
CPCA 108   Word Processing on Microcomputers I*.................1
CPCA 110   Spreadsheets on Microcomputers I*....................1
CPCA 114   Databases on Microcomputers I*.......................1
CPCA 138   Windows for Microcomputers*..........................1
```

Second Semester

```
CPCA 111   Spreadsheets on Microcomputers II*...................1
CPCA 115   Databases on Microcomputers II*......................2
CPCA 123   Presentation Graphics*...............................1
CPCA 125   Word Processing on Microcomputers II*................1
CPCA 141   Internet I*..........................................1
           CPCA Elective........................................1
           TOTAL CREDIT HOURS..................................12
```

CPCA Electives

```
CPCA 118   Groupware*...........................................1
```

```
CPCA 121   Introduction to Project Management*.................1
CPCA 151   Internet II*.......................................1
CPCA 161   Introduction to Web Pages*.........................1


Note:A student can elect to take CPCA 128, Personal Computer
Applications, in lieu of CPCA 108, CPCA 110 and CPCA 123.
An additional elective can then be substituted for CPCA 105.
*Prerequisite/Corequisite required
```

Web Application Certificate

This certificate is designed for those seeking entry-level positions and those who are currently employed and want to improve their job skills and career opportunities relating to Web-oriented applications. This certificate gives an employer tangible evidence of Web-based software skills and competencies.

Computer and Information Systems Department

Vocational Certificate

```
Prerequisite:

CPCA 105   Introduction to Personal Computer....................1
```

First Semester

```
CWEB 101   Intro to the Web Using Internet Explorer*............1
CWEB 111   Int Web Cncpt & Tech Using Internet Explorer*........1
CPCA 114   Databases on Microcomputers I........................1
CWEB 106   Introduction to Microsoft FrontPage*.................1
CWEB 105   Introduction to Web Pages............................1
           and either
CWEB 116   Intermediate Microsoft FrontPage*....................1
           or
CWEB 115   Intermediate Web Pages...............................1
CWEB 230   Introductory E-commerce Applications*................1
           TOTAL CREDIT HOURS..................................7
```

Second Semester

```
CWEB 135   Web-enabled Databases I - Using Access*..............1
CWEB 145   Web-enabled Databases II - Using Access*.............1
CWEB 240   Intermediate E-commerce Applications*................1
```

(Select two of the following three courses listed:)

```
CDTP 135   Desktop Photo Manipulation I.........................1
CDTP 145   Desktop Illustration I...............................1
CWEB 130   Introduction to Flash*..............................1
```

(Select two of the following three courses listed:)

```
CPCA 161   Introduction to Web Pages............................1
CWEB 160   Introduction to Javascript*..........................1
CWEB 107   Web Tools...........................................1
           TOTAL CREDIT HOURS..................................7
           TOTAL PROGRAM CREDIT HOURS.........................14
*Prerequisite/Corequisite required
```

Web Developer Advanced Certificate

The Web developer advanced certificate is for the computer professional who wants to acquire the necessary skills to enable clients to interface with databases on the World Wide Web.

Vocational Certificate

```
Note: CIS 134 Programming Fundamentals 4 credit hours
is the prerequisite to most CIS/CS courses.
Courses that are prerequisites to the Web Developer
Advanced Certificate:


CPCA 161   Introduction to Web Pages Using HTML.................1
CDTP 130   Desktop Publishing I..................................
           or
CDTP 131   Desktop Publishing I.................................1
           or
CDTP 140   Desktop Publishing I.................................1
CIS  162   Database Programming................................4
CS   200   Concepts of Programming Algorithms Using C++.........4
           or
CS   205   Concepts of Programming Algorithms Using JAVA........4
CIS  235   Object-Oriented Programming Using C++...............4
           or
CS   255   Basic Data Structures Using Java....................4
```

First Semester

```
CIM  133   Screen Design.......................................4
CIS  204   Unix Operating System...............................3
CIS  240   Java I..............................................4
CIS  260   Database Management.................................4
           TOTAL CREDIT HOURS.................................15
```

Second Semester

```
CIM  130   Interactive Media Concepts*.........................4
CIS  254   Unix System and Web Administration..................4
CIS  280   Java II.............................................4
CIS  275   Web-enabled Database Programming....................4
           TOTAL CREDIT HOURS.................................16
           TOTAL PROGRAM CREDIT HOURS.........................31
```

Advanced Esthetics Training

Prerequisite: Must possess current esthetics lincense granted by the Kansas Board of Cosmetology or a current cosmetology license.

This 100 contact hour course is designed to meet the educational requirements for licensure by the Missouri Board of Cosmetology for estheticians in the cosmetology sciences and meet the needs of students who desire exposure to advanced esthetics techniques. Students will attend 44 hours of lecture/discussion/demonstration, practice 44 hours of integrated lecture/clinical, complete 4 hours assisting in a salon and participate in 8 hours of community service. Topics covered include body treatments, theroy on the day spa, airbrush, makeup, microderm abrasion, and manual lymphatic drainage.

Cosmetology

Area Vocational School Certificate

```
     100   contact hours.........................................
AVCO 218   Advanced Esthetics Training*........................0
*Prerequisite/Corequisite required
```

Cosmetology, A.A.S.

This degree is designed to facilitate student transfer of a technical education program under the provisions outlined in the Transfer Agreement and Articulation Guide for Kansas Community Colleges, Area Vocational Technical Schools and

Technical Colleges for the Associate in Applied Science, dated September 1999. Specifically, this degree may be earned by a student wishing to transfer a completed eligible technical program from JCCC. A student must have 19 additional credits from JCCC in order to receive a degree from Johnson County Community College. The 45 hours of documented transfer credit will be placed on the student's record when the student applies for graduation. Students must also meet JCCC admissions, residency, and graduation requirements.

Interested students should contact the JCCC Student Success Center for further information prior to enrollment in the completion of courses.

Cosmetology

Associate of Applied Science Degree

```
Sequence of Courses
Completionof JCCC Cosmetology program.........................45
ENGL 121   Composition I*......................................3
           Communication Elective...............................3
           Humanities Elective.................................3
           Social Science and/or Economics Electives...........3
           Science and/or Math Elective........................3
           Electives...........................................3
           Health and/or Physical Education Elective...........1
TOTAL      PROGRAM CREDIT HOURS...............................64
*Prerequisite/Corequisite required
```

Cosmetology Certificate

The field of cosmetology relies on creative people who use their ability to visualize shapes and forms for hair design and personal care. Cosmetologists need manual dexterity, an understanding of chemistry and superior client communication skills. This program provides theory and skill development in shampooing, cutting, shaping, curling and coloring hair, as well as manicuring and esthetics.

Employment opportunities are available in beauty salons, department stores, health care and hotel facilities. Entrepreneurship opportunities are also available for cosmetologists who choose to pursue this pathway. Additional employment choices include nail artist, complexion care, cosmetic or beauty supply sales and services, manufacturing technician and color chemist.

Enrollment is limited in the program. Admission requires an interview, testing and a physical examination. Contact the salon at 913-469-8500, ext. 4723 or 2390, for additional information.

Cosmetology

Area Vocational School Certificate

```
AVCO 110   Introduction to Cosmetology.........................0
AVCO 112   Clinical Cosmetology................................0
AVCO 114   Advanced Cosmetology*...............................0
Note:  TOTAL CONTACT HOURS.............................1500
*Prerequisite/Corequisite required
```

Cosmetology Instruct Training

This 300 contact hour course is designed to meet the educational requirements for licensure by the Kansas Board of Cosmetology for instructors in the cosmetology sciences. Students will attend 40 hours of lecture and participate in 260 hours of observation, clinic supervision, and classroom teaching. Topics covered include instructor characteristics, student motivation, methods and evaluation.

Cosmetology

Area Vocational School Certificate

```
AVCO 212  Cosmetology Instructor Training.....................0
Note:  TOTAL CONTACT HOURS...............................300
```

Esthetics Certificate

Theory and skill development in sanitation, skin sciences skin treatments, waxing, makeup, and business practices are offered. Upon completion of this program, students are prepared for the Kansas State Board of Cosmetology for Estheticians licensure written and practical exams. Admission requires an interview, testing and a physical examination. Contact the salon at 913-469-8500, ext. 4721 or 2390, for additional information.

Cosmetology

Area Vocational School Certificate

```
AVCO 118  Esthetics........................................0
Note:  TOTAL CONTACT HOURS...............................650
```

Nail Technology Certificate

The program provides theory and skill development in artistic application of artificial nail services which includes the application of fiberglass and silk wraps, tips with overlay, sculptured nails, and gels. Pedicures, manicures, and identifying the various diseases and disorders of the nails will also be taught. Upon completion of this program, students are prepared for the Kansas State Board of Cosmetology Onychology licensure written and practical exams. Admission requires an interview, testing and a physical examination. Contact the Salon at 913-469-8500, ext. 6402 or 2390, for additional information.

Cosmetology

Area Vocational School Certificate

```
AVCO 102  Nail Technology....................................0
Note:  TOTAL CONTACT HOURS...............................350
```

Dental Assisting Certificate

One of the most exciting features of a dental assistant career is the variety of work experiences you'll have, including working chair-side with dentists, taking radiographs, mixing dental materials, performing laboratory procedures, taking dental impressions, creating models, and fabricating bleaching trays and mouth guards. The demand for dental assistants and other professionals that dentists rely on to serve patients has increased dramatically.

The dental assistant program has accreditation from the American Dental Association (ADA), Commission on Dental Accreditation. Graduating from an ADA-accredited dental assisting program allows you to take the Dental Assisting National Board examination without the two years of full-time work experience that would otherwise be required.

JCCC offers the cooperative dental assisting certificate program for Johnson County residents with Penn Valley Community College. You must be accepted into the program at both JCCC and Penn Valley Community College. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the certificate-granting institution. Contact Penn Valley Community College at 816-759-4231 for an application packet, which includes deadlines, program prerequisites and admission requirements.

For enrollment information for this cooperative, go to: http://www.jccc.net/home/handbook/student.php/toc_hb1/toc_admissions/coop_pr

ograms

Vocational Certificate

Certificate granted by Penn Valley Community College

(Specific Program Requirements-must be taken at JCCC)

```
ENGL 121  Composition I*........................................3
PSYC 130  Introduction to Psychology............................3
SPD  121  Public Speaking.......................................3
```

(Specific Program Requirements taken at Penn Valley)

```
KDA  100  Developmental Dentistry*..............................3
KDA  105  Dental Laboratory Procedures*.........................2
KDA  110  Chairside Assisting I*................................5
KDA  115  Dental Radiology*.....................................3
KDA  125  Clinical Practice I*..................................2
KDA  126  Dental Assistant Seminar I*...........................1
KDA  200  Body Structure and Function*..........................2
KDA  205  Dental Biomaterials*..................................2
KDA  210  Chairside Assisting II*...............................2
KDA  215  Dental Radiology II*..................................1
KDA  225  Dental Office Management*.............................2
KDA  250  Clinical Practice II*.................................4
KDA  260  Dental Assistant Seminar II*..........................1
          TOTAL PROGRAM CREDIT HOURS.........................39
*Prerequisite/Corequisite required
```

Dental Hygiene, A.A.S.

A key member of the professional dental team, the licensed dental hygienist is on the "front line" of patient care, responsible for providing educational, clinical and therapeutic services that promote total health through good oral health. The growing public awareness of the benefits of oral health, combined with the growth of corporate dental plans, has significantly increased the demand for dental care and has made dental hygiene one of the country's fastest-growing careers. The demand for dental hygienists is expected to grow 48 percent by 2006. Competitive salaries and flexible work schedules are added benefits. Students in JCCC's dental hygiene program prepare for careers as preventive dental professionals who have a choice of working in a variety of settings. Graduates get jobs in school systems, nursing homes and dental supply firms, as well as private dental offices.

Fully accredited by the American Dental Association Commission on Dental Accreditation, this 79-credit-hour program requires four semesters and one summer session of full-time study. Successful completion leads to an associate of applied science degree. All dental hygiene students gain important practical experience working in JCCC's state-of-the-art clinical facility under the supervision of licensed dental hygienists and dentists.

Enrollment is limited. The deadline for fall semester applications is Feb. 1. For an application, call the dental hygiene program at 913-469-3808. The program Web site is http://www.jccc.net/home/depts/001253.

Dental Hygiene Program

Associate of Applied Science Degree

```
Before beginning clinical courses
CHEM 122  Principles of Chemistry...............................5
ENGL 121  Composition I*........................................3
SOC  122  Introduction to Sociology.............................3
PSYC 130  Introduction to Psychology............................3
BIOL 230  Microbiology*.........................................3
          TOTAL CREDIT HOURS..................................17
```

Note: CHEM 122 or BIOL 230 and one of the other
prerequisites must be completed by Feb 1.

First Semester

```
DHYG 121  Clinical Dental Hygiene I............................5
DHYG 125  Developmental Dentistry*............................2
DHYG 135  Dental Materials*...................................2
BIOL 146  General/Head and Neck Anatomy*......................4
          TOTAL CREDIT HOURS.................................13
```

Second Semester

```
DHYG 140  Clinical Dental Hygiene II*.........................4
DHYG 142  Dental Radiology*...................................2
DHYG 146  Periodontics*.......................................3
DHYG 148  Dental Health Education*............................2
BIOL 225  Human Physiology*...................................4
          TOTAL CREDIT HOURS.................................15
```

Summer

```
BIOL 235  General Nutrition*..................................3
          (corequisite: BIOL 225)
          Humanities Elective.................................3
          Mathematics Elective................................3
          TOTAL CREDIT HOURS..................................9
```

Third Semester

```
DHYG 221  Clinical Dental Hygiene III*........................6
DHYG 225  Pathology*..........................................3
DHYG 230  Dental Therapeutics*................................3
DHYG 240  Community Dental Health*............................2
          TOTAL CREDIT HOURS.................................14
```

Fourth Semester

```
DHYG 245  Nitrous Oxide Analgesia*............................1
DHYG 250  Clinical Dental Hygiene IV*.........................6
SPD  120  Interpersonal Communication.........................3
          or
SPD  121  Public Speaking.....................................3
          or
SPD  125  Personal Communication..............................3
          Health and/or Physical Education Elective...........1
          TOTAL CREDIT HOURS.................................11
          TOTAL PROGRAM
          CREDIT HOURS......................................79
*Prerequisite/Corequisite required
```

Computer-aided Drafting and Design Technology, A.A.S.

Drafting technicians are engineering communication specialists who apply mathematics, computer applications and manual skills to develop specifications and drawings for the manufacturing and construction of virtually everything made in the world. JCCC's drafting technology program offers students up-to-date equipment in facilities located in the Industrial Training Center on the JCCC campus. In addition, the program offers departmental specialty courses. The program provides students with the skills necessary to produce detailed shop drawings, land plats, erection drawings and designs for manufacturing, building, production, commercial building and site construction as well as detailed drawings and designs of components, assemblies and systems used in manufactured products.

Industrial growth and increasingly complex design problems will greatly increase the demand for design and drafting services, particularly using CAD equipment. Employers are most interested in applicants with drafting and mechanical skills, a background in CAD techniques and courses in math, science and engineering technology.

The two-year curriculum enables students to use the latest computer-aided design equipment. Course projects and laboratory procedures are similar to those used in industry.

An associate of applied science degree is awarded upon the successful completion of 68 credit hours.

Computer Aided Drafting and Design

Associate of Applied Science Degree

Prerequisite:

```
DRAF 120   Introduction to Drafting.............................2
BOT  101   Computerized Keyboarding............................1
DRAF 130   Introduction to CAD Concepts........................3
CPCA 105   Introduction to Personal Computers..................1
CPCA 138   Windows for Microcomputers*.........................1
CPCA 141   Internet I*.........................................1
```

First Semester

```
DRAF 129   Interpreting Architectural Drawings.................2
DRAF 123   Interpreting Machine Drawings*......................2
DRAF 135   Graphic Analysis....................................3
DRAF 230   Intermediate CAD....................................3
ENGL 121   Composition I*......................................3
MATH 133   Technical Mathematics I*............................4
           TOTAL CREDIT HOURS.................................17
```

Second Semester

```
DRAF 238   Architectural Drafting*.............................3
DRAF 231   CAD 3-D*............................................3
DRAF 252   Structural Drafting*................................3
           Technical Electives.................................3
MATH 134   Technical Mathematics II*...........................5
           TOTAL CREDIT HOURS.................................17
```

Third Semester

```
CET  211   Technical Statics and Design*.......................3
DRAF 222   Mechanical Drafting*................................3
DRAF 250   Electrical Drafting*................................3
           Health and/or Physical Education Elective...........1
ENGL 123   Technical Writing I*................................3
PHYS 125   Technical Physics I*................................4
           TOTAL CREDIT HOURS.................................17
```

Fourth Semester

```
DRAF 228   Industrial Design Applications*.....................3
DRAF 243   Architectural Desktop*..............................2
           or
DRAF 244   Land Development Desktop*...........................2
           or
DRAF 245   Mechanical Desktop*.................................2
DRAF 225   Civil Drafting*.....................................3
           Social Science and/or Economics Elective............3
           Humanities Elective.................................3
           Technical Electives.................................3
           TOTAL CREDIT HOURS.................................17
           TOTAL PROGRAM CREDIT HOURS.........................68
```

Technical Electives

```
CPCA 108   Word Processing on Microcomputers I*.................1
CPCA 110   Spreadsheets on Microcomputers I*...................1
CPCA 111   Spreadsheets on Microcomputers II*..................1
CPCA 114   Databases on Microcomputers I*......................1
CPCA 115   Databases on Microcomputers II*.....................2
CPCA 117   Databases on Microcomputers III*....................1
CPCA 121   Introduction to Project Management*.................1
CPCA 123   Presentation Graphics*..............................1
CPCA 125   Word Processing on Microcomputers II*...............1
CPCA 151   Internet II*........................................1
CPCA 158   Internet Application and Utilities*.................3
CPCA 161   Introduction to WEB pages*..........................1
DRAF 140   Topics in CAD I.....................................2
DRAF 232   CAD Applications Workstation Environment*...........2
DRAF 233   CAD Administration..................................2
DRAF 240   Introduction to AutoLISP*...........................2
DRAF 242   Topics in CAD II*...................................2
DRAF 243   Architectural Desktop*..............................2
DRAF 244   Land Development Desktop*...........................2
DRAF 245   Mechanical Desktop*.................................2
DRAF 271   Drafting Internship I*..............................3
DRAF 272   Drafting Internship II*.............................3
CET  105   Construction Methods................................3
CET  125   Construction Specifications*........................2
CET  127   Construction Estimating*............................3
CET  129   Construction Management.............................3
CET  270   Fluid Mechanics*....................................3
MFAB 152   Manufacturing Materials and Processes...............3
ENGR 180   Engineering Land Surveying I*.......................3
*Prerequisite/Corequisite required
```

Computer-aided Drafting Certificate

This certificate makes it possible for those students who already have a drafting or engineering degree, or those who have sufficient work experience, to obtain certification in CAD.

Computer Aided Drafting and Design

Vocational Certificate

(Sequence of Required Courses)

```
CPCA 105   Introduction to Personal Computers..................1
CPCA 138   Windows for Microcomputers*.........................1
CPCA       Elective............................................1
DRAF 130   Introduction to CAD Concepts*.......................3
DRAF 230   Intermediate Computer-aided Drafting*...............3
DRAF 231   Computer-aided Drafting 3-D*........................3
           TOTAL PROGRAM CREDIT HOURS.........................12
*Prerequisite/Corequisite required
```

Computer-aided Drafting Network Administrator Certificate

This certificate is designed to cover the duties of a local area network administrator in a computer-aided drafting and design environment. It is directed toward the individual who has other primary job responsibilities but also must support the network. It provides instruction in specific network products, as well as hands-on investigation of utilities and tools not permissible in a production environment. It provides instruction on topics, procedures and issues necessary for someone to manage a CAD department.

Computer Aided Drafting and Design

Vocational Certificate

Required Courses

```
IT   200   Networking Technologies...............................3
ELEC 124   Microcomputer Hardware................................3
IT   205   Implementing Windows Client...........................3
IT   221   Windows Server*.......................................3
DRAF 232   CAD Applications Workstation Environment*............2
DRAF 233   CAD Administration....................................2
           TOTAL PROGRAM CREDIT HOURS..........................16
*Prerequisite/Corequisite required
```

Early Childhood Education, A.S.

The Early Childhood Education associate's degree program is for those students who currently are employed or aspire to work in early childhood care and education programs. Completion of JCCC's associate of science degree program provides students the credentials to advance in quality early childhood care and education settings. The program has three areas of specialization: administration, care and education of young children with special needs, and infant/toddler care, and education. Credits will transfer to most Kansas universities. Excellent practical education opportunities are available to students in the program.

Prerequisite

Students must meet the requirements for employment in early childhood care and education centers in Kansas (stated in the Kansas Licensing Regulations for Preschools and Child Care Centers).

Early Childhood Education Program

Associate of Science Degree

First Semester

```
EDUC 130   Foundations of Early Childhood Education.............3
ENGL 121   Composition I*........................................3
           Math Elective*^.......................................3
PSYC 130   Introduction to Psychology............................3
SPD  121   Public Speaking.......................................3
           TOTAL CREDIT HOURS..................................15
```

Second Semester

```
EDUC 131   Early Childhood Curriculum I*.........................3
EDUC 250   Child Health, Safety and Nutrition...................3
           Health/Physical Education**...........................1
           Science course with Lab***............................4
PSYC 215   Child Development*....................................3
           or
PSYC 218   Human Development*....................................3
           TOTAL CREDIT HOURS..................................14
```

Summer

```
ENGL 122   Composition II*.......................................3
           Humanities Elective...................................3
           TOTAL CREDIT HOURS...................................6
```

Third Semester

```
EDUC 231   Early Childhood Curriculum II*........................3
EDUC 210   Creative Experiences for Young Children*.............3
EDUC 260   Observing & Interacting w/ Young Children*...........3
ANTH 130   World Cultures........................................3
           or
```

```
ANTH 125   Cultural Anthropology................................3
           or
SOC  131   Marriage and the Family.............................3
           Science or Math.....................................5
           TOTAL CREDIT HOURS.................................17
```

Fourth Semester

```
EDUC 235   Parenting*..........................................2
EDUC 284   Seminar.............................................3
EDUC 285   Internship..........................................3
           Humanities Elective.................................3
           Specialization courses..............................6
           TOTAL CREDIT HOURS.................................17
           TOTAL PROGRAM CREDIT HOURS.........................69
```

(Area of Specialization) select one

(Child Care Administration)

```
ACCT 121   Accounting I........................................3
EDUC 280   Administration of Early Childhood Programs...........3
```

(Children with Special Needs)

```
EDUC 220   Survey of the Exceptional Child.....................3
EDUC 215   Young Children with Special Needs...................3
```

(Infant and Toddler Care and Education)

```
EDUC 270   Early Childhood Development.........................3
EDUC 225   Infant and Toddler Education and Care*..............3
```

(School-age Programs)

```
EDUC 240   School-age Programs and Curriculum I*...............3
EDUC 245   School-age Programs and Curriculum II*..............3
*Prerequisite/Corequisite required
```

(^Recommended Math course information)

```
The mathematics requirement will be satisfied by any
mathematics course except MATH 111, Fundamentals
of Mathematics ,and MATH 115, Introduction to Algebra.

Specific recommended course
MATH 171  College Algebra*....................................3
```

(**Recommended HPER course, if not certified in CPR)

```
HPER 200   First Aid/CPR.......................................2
```

(***Recommended courses for the science requirement)

Life Science

```
BIOL 122   Principles of Biology Lecture.......................3
BIOL 123   Principles of Biology Lab*..........................1
BIOL 130   Environmental Science Lecture.......................3
BIOL 131   Environmental Science Lab*..........................1
```

Physical Science

```
ASTR 122   Astronomy...........................................4
GEOS 130   General Geology.....................................5
```

```
GEOS 140   Physical Geography Lecture...........................3
GEOS 141   Physical Geography Lab*..............................2
PSCI 120   Physical Science....................................4
```

Early Childhood Education Certificate

This certificate is for students seeking employment in early childhood care and education programs and for current early childhood care and education teachers/administrators who want to upgrade their skills and increase their knowledge in this area of study. The program does not need to be completed in one year.

Students must be first aid/CPR certified to receive the early childhood education certificate. The first aid/CPR certification may be obtained through agencies such as The Midwest WholeChild Development Group or your local hospital; you may also enroll in HPER 200 first aid/CPR at JCCC. Students must meet the requirements for employment in early childhood care and education centers in Kansas (stated in the Kansas Licensing Regulations for Preschool and Child Care Centers).

Early Childhood Education Program

Postsecondary Certificate

First Semester

```
EDUC 130   Foundations of Early Childhood Education.............3
EDUC 131   Early Childhood Curriculum I*.......................3
EDUC 270   Early Childhood Development.........................3
ENGL 121   Composition I*.....................................3
SPD  120   Interpersonal Communications**.....................3
           or
SPD  121   Public Speaking....................................3
           TOTAL CREDIT HOURS................................15
```

Summer Session

```
EDUC 210   Creative Experiences for Young Children*............3
```

Second Semester

```
EDUC 231   Early Childhood Curriculum II*......................3
EDUC 250   Child Health, Safety and Nutrition.................3
MATH 120   Business Math*.....................................3
EDUC 235   Parenting*.........................................2
```

(Select one of the following courses:)

```
EDUC 205   Concepts in Early Childhood Education*^.............3
EDUC 240   School-age Programs Curriculum I*..................3
EDUC 280   Administration of Early Childhood Programs..........3
EDUC 215   Young Children with Special Needs..................3
EDUC 225   Infant and Toddler Education and Care*.............3
           TOTAL CREDIT HOURS................................14
           TOTAL PROGRAM CREDIT HOURS.......................32
*Prerequisite/Corequisite required
**Course is not considered credit in the associate of
science early childhood education degree program.

       ^Course is not considered credit in associate of science
early childhood education degree program. Credit for
experience is available.
```

Electrical Technology, A.A.S.

The use of electrical technology in residential, commercial and industrial applications continues to grow rapidly. Electricians install and maintain electrical systems for a variety of purposes, including lighting, appliances, climate control, security and communications.

JCCC offers a 64-credit-hour associate of applied science degree program and a 28-credit-hour vocational certificate program. Both programs emphasize hands-on training integrated with a knowledge of theory and study of the National Electrical Code that prepares students to take a national licensure exam.

The associate of applied science degree program prepares students to enter the electrical trade in four types of electrical occupations: residential, commercial, industrial and maintenance. The program also prepares students for continued education in electrical contracting/management, electrical design and industrial/electronic controls.

Electrical Technology Program

Associate of Applied Science Degree

First Semester

```
ELTE 122   National Electrical Code I...........................4
ELTE 125   Residential Wiring Methods*..........................4
ELTE 123   Electromechanical Systems............................4
INDT 125   Industrial Safety....................................3
           TOTAL CREDIT HOURS..................................15
```

Second Semester

```
ELTE 200   Commercial Wiring Methods*...........................4
ENGL 121   Composition I*.......................................3
MATH 133   Technical Mathematics I*.............................4
CPCA 105   Introduction to Personal Computers...................1
           Related Electives....................................4
           TOTAL CREDIT HOURS..................................16
```

Third Semester

```
DRAF 129   Interpreting Architectural Drawings..................2
ELTE 205   Industrial Electrical Wiring.........................4
ELTE 210   Code Certification Review............................3
ELTE 271   Electrical Internship I..............................3
HPER 200   First Aid/CPR........................................2
           Social Science and/or Economics Elective.............3
           TOTAL CREDIT HOURS..................................17
```

Fourth Semester

```
ENGL 123   Technical Writing I*.................................3
ELTE 215   Generators, Transformers and Motors..................4
CET  105   Construction Methods.................................3
           Humanities Elective..................................3
           Related Electives....................................3
           TOTAL CREDIT HOURS..................................16
           TOTAL PROGRAM CREDIT HOURS..........................64
```

Related Electives

```
ELTE 291   Independent Study..................................1-4
CPCA 128   Personal Computer Applications.......................3
DRAF 120   Introduction to Drafting.............................2
DRAF 130   Introduction to CAD Concepts.........................3
DRAF 250   Electrical Drafting..................................3
ELEC 120   Introduction to Electronics..........................3
ELEC 125   Digital Electronics I................................3
ELEC 131   Introduction to Sensors and Actuators................3
ELEC 133   Programmable Controllers.............................3
ELEC 165   Advanced Programmable Controllers*...................3
```

```
ELEC 185  LAN Cabling and Installation........................3
HVAC 121  Basic Principles of HVAC............................4
INDT 155  Workplace Skills....................................1
MFAB 121  Introduction to Welding.............................4
BUS  140  Principles of Supervision...........................3
BUS  145  Small Business Management...........................3
BUSE 142  FastTrac Business Plan..............................3
PHYS 125  Technical Physics I.................................4
RRT  165  Railroad Safety, Quality and Environment............3
*Prerequisite/Corequisite required
```

Electrical Technology Certificate

The electrical technology vocational certificate program is a one-year program that students can complete in two semesters. Designed to give students the basic skills to gain employment as a construction or maintenance electrician, the curriculum includes an internship with local employers.

Electrical Technology Program

Vocational Certificate

First Semester

```
ELTE 122  National Electrical Code I..........................4
ELTE 125  Residential Wiring Methods*.........................4
ELTE 123  Electromechanical Systems...........................4
INDT 125  Industrial Safety...................................3
          TOTAL CREDIT HOURS.................................15
```

Second Semester

```
ELTE 200  Commercial Wiring Methods*..........................4
ELTE 210  Code Certification Review*..........................3
ELTE 271  Electrical Internship I*............................3
          Technical Electives.................................3
          TOTAL CREDIT HOURS.................................13
          TOTAL PROGRAM CREDIT HOURS........................28
```

Technical Electives

```
ELTE 205  Industrial Electrical Wiring*.......................4
ELTE 291  Independent Study*................................1-4
ELTE 215  Generators, Transformers and Motors*................4
ELEC 185  LAN Cabling and Installation........................3
CET  105  Construction Methods................................3
DRAF 120  Introduction to Drafting............................2
DRAF 129  Interpreting Architectural Drawings.................2
ELEC 120  Introduction to Electronics.........................3
ELEC 124  Microcomputer Hardware..............................3
ELEC 125  Digital Electronics I...............................3
ELEC 131  Introduction to Sensors and Actuators...............3
ELEC 133  Programmable Controllers............................3
ELEC 165  Advanced Programmable Controllers*..................3
HVAC 121  Basic Principles of HVAC*...........................4
INDT 155  Workplace Skills....................................1
MFAB 121  Introduction to Welding.............................4
*Prerequisite/Corequisite required
```

Electrical Technology/Industrial Maintenance Option, A.A.S.

Industrial maintenance requires people employed in the field to be trained in a variety of areas, including welding, electricity, HVAC, gasoline or diesel engines, and generators. Often, the needs will change due to growth in a company or the

expansion of services provided. This degree option will allow a student to choose from numerous courses to custom build a program that will fit the needs of an employer. It will also allow students employed in an industrial maintenance position to broaden their skill areas and achieve an associate of applied science degree.

Electrical Technology Program

Associate of Applied Science Degree

First Semester

```
DRAF 129   Interpreting Architectural Drawings..................2
           or
MFAB 180   Blueprint and Symbols Reading for Welders...........2
           or
HVAC 143   Reading Blueprints and Ladder Diagrams..............2
ENGL 121   Composition I*......................................3
INDT 125   Industrial Safety...................................3
HVAC 123   Electromechanical Systems...........................4
MATH 133   Technical Mathematics I*............................4
           TOTAL CREDIT HOURS.................................16
```

Second Semester

```
CPCA 128   Personal Computer Applications......................3
ELTE 122   National Electrical Code I..........................4
ENGL 123   Technical Writing I*................................3
INDT 155   Workplace Skills....................................1
           Technical Electives.................................5
           TOTAL CREDIT HOURS.................................16
```

Third Semester

```
ECON 130   Basic Economic Issues...............................3
MFAB 121   Introduction to Welding.............................4
           or
MFAB 127   Welding Processes...................................2
SPD  120   Interpersonal Communications........................3
           Related Electives...................................3
           Technical Electives...............................3-5
           TOTAL CREDIT HOURS.................................16
```

Fourth Semester

```
EMS  121   CPR I-Basic Life Support Health Care Provider.......1
           Humanities Elective.................................3
           Related Electives...................................3
           Technical Electives.................................9
           TOTAL CREDIT HOURS.................................16
           TOTAL PROGRAM CREDIT HOURS........................64
```

Technical Electives

```
AUTO 165   Automotive Engine Repair*...........................4
AUTO 210   Advanced Engine Repair*.............................3
CET  105   Construction Methods................................3
ELEC 120   Introduction to Electronics.........................4
ELEC 133   Programmable Controllers............................3
ELEC 165   Advanced Programmable Controllers*..................3
ELTE 200   Commercial Wiring Methods*..........................4
ELTE 205   Industrial Electrical Wiring*.......................4
ELTE 271   Electrical Internship I*............................3
HVAC 150   Refrigerant Management and Certification............1
HVAC 121   Basic Principles of HVAC*...........................4
HVAC 146   Plumbing Systems Applications.......................3
HVAC 221   Commercial Systems..................................4
HVAC 223   Commercial Systems..................................4
```

```
HVAC  271  HVAC Internship*........................................3
MFAB  125  Advanced Gas and Arc Welding*...........................4
MFAB  170  Basic Machine Tool Processes...........................4
MFAB  240  Metallurgy.............................................2
MFAB  140  Maintenance Repair Welding*...........................3
MFAB  271  Metal Fabrication Internship*.........................3
```

Related Electives

```
BUS   140  Principles of Supervision.............................3
BUS   141  Principles of Management..............................3
CET   129  Construction Management...............................3
CET   140  Civil Engineering Materials*..........................3
           (must take concurrent with Math 133)
CPCA  105  Introduction to Personal Computers....................1
CPCA  121  Introduction to Project Management*...................1
CPCA  141  Internet I*...........................................1
IT    200  Networking Technologies...............................3
*Prerequisite/Corequisite required
```

Electrical Technology/Industrial Maintenance Certificate

Industrial maintenance mechanics are employed in the die-casting, plastics, food processing, printing, precision metal and woodworking industries. The vocational certificate course work includes a broad curriculum of industrial electricity, welding, HVAC and blueprint reading. Emphasis will be hands-on training in the repairing and testing of equipment. This also allows students employed in an industrial maintenance position to broaden their skill areas and achieve a vocational certificate.

Electrical Technology Program

Vocational Certificate

Required Courses

```
DRAF  129  Interpreting Architectural Drawings...................2
           or
MFAB  180  Blueprint and Symbols Reading for Welders.............2
           or
HVAC  143  Reading Blueprints and Ladder Diagrams................2
ELTE  123  Electromechanical Systems.............................4
INDT  125  Industrial Safety.....................................3
MFAB  121  Introduction to Welding...............................4
           or
MFAB  127  Welding Processes.....................................2
           Technical Electives...............................11-13
           TOTAL PROGRAM CREDIT HOURS..........................24
           CREDIT HOURS........................................24
```

Technical Electives

```
ELEC  120  Introduction to Electronics...........................3
ELEC  133  Programmable Controllers..............................3
ELEC  165  Advanced Programmable Controllers*....................3
ELTE  122  National Electrical Code I............................4
ELTE  200  Commercial Wiring Methods*............................4
ELTE  205  Industrial Electrical Wiring*.........................4
HVAC  121  Basic Principles of HVAC*.............................4
CET   105  Construction Methods..................................3
MFAB  125  Advanced Gas and Arc Welding*.........................4
MFAB  140  Maintenance Repair Welding*...........................3
MFAB  170  Basic Machine Tool Processes..........................4
MFAB  240  Metallurgy............................................2
INDT  155  Workplace Skills......................................1
*Prerequisite/Corequisite required
```

Electronics Technology, A.A.S.

Electronics technology influences almost every aspect of modern life. Skilled electronics technicians are needed to support growth in this industry. These technicians must be able to fabricate, test, install, operate and maintain highly technical systems such as communications systems, computers and computer networks, and industrial process control systems. The program focuses on the underlying principles of electronic devices, circuit analysis and digital electronics and will provide a broad systems view of electronics.

Students in the electronics program will work with outstanding facilities and the latest laboratory equipment. Graduates of the program will have the opportunity for employment in one of today's most challenging and exciting career fields.

Program graduates also have the opportunity to pursue a baccalaureate degree (B.S.E.E.T.) in electronics engineering technology through the transfer of JCCC electronics technology and other courses to participating four-year institutions. Students contemplating this option should seek early counseling and prepare a program plan with specific course selections in anticipation of four-year institution requirements. Students should be prepared to enroll in higher-level math and physics courses when compared with current electronics technology program requirements.

Students who are transferring to JCCC with significant numbers of electronic technology credits should be aware that at least 9 credit hours of approved electronic technology courses must be completed at JCCC before the A.A.S. degree will be awarded. In addition, because of changes in technology, students who desire to graduate using electronics technology courses completed more than seven years ago should seek counseling regarding the current relevance of those courses.

Electronics Technology

Associate of Applied Science Degree

First Semester

```
ELEC 120   Introduction to Electronics...........................3
ELEC 124   Microcomputer Hardware...............................3
ELEC 125   Digital Electronics I................................4
MATH 133   Technical Mathematics I..............................4
ENGL 121   Composition I*.......................................3
           TOTAL CREDIT HOURS..................................17
```

Second Semester

```
ELEC 122   Circuit Analysis I*..................................3
ELEC 225   Digital Electronics II*..............................3
MATH 134   Technical Mathematics II.............................5
SPD  125   Personal Communications..............................3
           Humanities Elective..................................3
           TOTAL CREDIT HOURS..................................17
```

Third Semester

```
ELEC 130   Electronic Devices I*................................4
ELEC 140   Circuit Analysis II*.................................3
ELEC 175   Telecommunications*..................................3
ENGL 123   Technical Writing I*.................................3
           Social Science/Economics Elective...................3
           TOTAL CREDIT HOURS..................................16
```

Fourth Semester

```
ELEC 230   Electronic Devices II*...............................3
ELEC 240   Electronic Communication Systems*....................4
ELEC 245   Microprocessors*.....................................3
PHYS 125   Technical Physics I..................................4
           Health and/or Physical Education Elective............1
           TOTAL CREDIT HOURS..................................15
```

```
                 TOTAL PROGRAM CREDIT HOURS.........................65
      *Prerequisite/Corequisite required
```

Industrial Controls Certificate

This certificate is designed to focus on programmable logic controllers and a variety of input and output devices. The certificate is a 9-credit-hour, 3-course sequence involving both the hardware and programming aspects of controllers used in industrial processes. Lectures provide a theoretical basis and laboratory projects offer experience in controller program planning, documentation and troubleshooting.

Electronics Technology

Vocational Certificate

Required Courses

```
ELEC 131   Introduction to Sensors and Actuators................3
ELEC 133   Programmable Controllers.............................3
ELEC 165   Advanced Programmable Controllers*...................3
           TOTAL PROGRAM CREDIT HOURS...........................9
*Prerequisite/Corequisite required
```

Microcomputer Technical Support Certificate

The microcomputer technical support vocational certificate is designed to provide an entry-level set of competencies that will allow the recipient to quickly perform satisfactorily in computer system help desk environment. This 6-course sequence will expose the student to significant aspects of computer hardware, computer networks and interconnection computer software, as well as interpersonal skills. Lectures will provide a theoretical foundation of microcomputer performance while a variety of laboratory projects will offer experience in system organization, interconnection and troubleshooting.

Electronics Technology

Vocational Certificate

```
ELEC 124   Microcomputer Hardware...............................3
CPCA 128   Personal Computer Applications.......................3
ELEC 185   LAN Cabling and Installation.........................3
IT   205   Implementing Windows Client..........................3
ELEC 250   Microcomputer Maintenance*...........................3
BUS  225   Human Relations......................................3
           or
SPD  125   Personal Communication...............................3
           TOTAL PROGRAM CREDIT HOURS...........................18
*Prerequisite/Corequisite required
```

Emergency Medical Science, A.A.S.

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

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

JCCC's financial aid program includes scholarships, grants and loans if you are eligible. Financial aid is particularly important in the MICT program, since long hours usually prohibit you from holding a full-time job.

EMS First Responder Course

EMS first responder students receive classroom and skills training in cardiopulmonary resuscitation (CPR), patient assessment, and fracture and airway management. This class is recommended for:

- people without a medical background who wish to enter the EMT program

- anyone who wishes to learn basics of emergency medical care

- firefighters, police officers, lifeguards and others from agencies involved in public safety

- employees involved in company safety programs

Students successfully completing this course will be allowed to sit for the certification examination administered by the Kansas Board of Emergency Medical Services.

The EMS First Responder class is offered as the need arises – in general, once each semester.

EMS 128   EMS First Responder...................5

TOTAL CREDIT HOURS....................5

Emergency Medical Technician Course

This program is designed for individuals interested in providing medical care to patients in the pre-hospital setting. It will provide the participants with opportunities to gain information, skills and attitudes necessary for certification and practice as an emergency medical technician (EMT) in the state of Kansas.

The program has been approved by the Kansas Board of Emergency Medical Services. It addresses information and techniques currently considered to be the responsibility of the EMT, according to the United States Department of Transportation, National Standard Curriculum. The program consists of lecture instruction, practical skill training and clinical experience.

Classroom instruction includes anatomy, physiology, recognition and care of actual medical emergencies and trauma-related injuries. Skills in performing CPR, bandaging, splinting, childbirth techniques and other emergency care procedures are taught. An extrication session will give students hands-on experience with auto accident situations and provide the opportunity to observe an air evacuation of a patient. Upon instructor recommendation, students will participate in a clinical observation in a hospital setting. Additionally, students will arrange to participate as an observer with a local EMS service. Students participate in seven hours of lecture and two hours of lab a week. Students are also required to attend approximately two Saturday classes lasting between four and eight hours each. Saturday dates and times will be announced during the first class session.

Students successfully completing this course will be allowed to sit for the certification examinations administered by the Kansas Board of Emergency Medical Services.

Prerequisites

EMS 128 or equivalent, or be an active member in a health-related occupation (firefighter, rescue, ambulance, law enforcement, industrial first-aid personnel or other health-related field), or attained the minimum of an associate's degree.

EMS 130   Emergency Medical Technician Course............9

TOTAL PROGRAM CREDIT HOURS....................9

EMT Practicum

EMT Practicum is designed to give the EMT-B, recently certified or those with limited field experience, the additional skills and confidence needed to successfully compete for a position as an EMT-B with an EMS service. Skills will include ambulance operation, driving, map reading, insurance billing and unit maintenance. This course will also provide high-fidelity scenario training in all aspects of the EMS call, as well as extensive field lab time with a local EMS service.

Students will become directly involved in their own training by leading and participating in realistic medical emergency scenarios with "actors" playing life-like patients and bystanders. Numerous field internship shifts on a licensed ambulance are part of the training. Students will work through all phases of an ambulance call. They will be presented with complex patient-care situations that require the development of critical thinking and decision-making skills. Students will be tested on their ability to lead a team of pre-hospital caregivers in the diagnosis, proper treatment and evacuation of a patient. Scenario simulations will

be set up to be as life-like as possible.

Prerequisite

EMS 130 EMT-B or equivalent and a copy of current EMT-B card

EMS 133   EMT Practicum....................3

TOTAL PROGRAM CREDIT HOURS.......3

Mobile Intensive Care Technician (Paramedic) Program

This advanced emergency medical care program consists of four courses, including a clinical rotation in a hospital setting and a field internship with an ambulance service. You learn emergency procedures such as cardiac monitoring and defibrillation and the administration of medications and IV fluids. Successful completion of this program and subsequent certification exams will enable graduates to work as skilled paramedics and to provide sophisticated, advanced pre-hospital life support.

JCCC's MICT program is fully accredited by the Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP). If you are interested, contact the Admissions office for an application packet, which includes deadlines, admission requirements and options for meeting academic criteria.

This is a selective admission program with limited enrollment. If you are accepted into the program, you take classes in the spring, summer and fall, completing the program in December.

Students successfully completing this program will be allowed to sit for the certification examinations administered by the Kansas Board of Emergency Medical Services.

Associate of Applied Science Degree

(Prior to beginning professional courses)

```
Successful completion of an EMT course and successful
completion of the following courses:

BIOL 144   Human Anatomy and Physiology.........................5
           or
BIOL 140   Human Anatomy......................................4
           and
BIOL 225   Human Physiology*..................................4
ENGL 121   Composition I*.....................................3
SOC  125   Social Problems....................................3
           or
           Social Science/Economics Elective...................3
PHIL 143   Ethics.............................................3
           or
           Humanities Elective................................3
           Health/Physical Education Elective..................1
           Electives..........................................2
           {depending on which science
           class(es) are taken}
           TOTAL GENERAL EDUCATION
           CREDIT HOURS.......................................17
```

First Semester

```
EMS  220   MICT I*...........................................10
EMS  225   MICT II*..........................................10
           TOTAL CREDIT HOURS.................................20
```

Second Semester

```
EMS  230   MICT III..........................................12
```

Third Semester

```
EMS  271   MICT IV...........................................15
           TOTAL PROFESSIONAL CREDIT HOURS....................47
```

```
                   TOTAL PROGRAM CREDIT HOURS.........................64
        *Prerequisite/Corequisite required
```

Mobile Intensive Care Technician Certificate

Prior to beginning profession courses:

An associate's degree or higher, successful completion of an EMT course, and successful completion of a college-level anatomy/physiology course are required.

Mobile Intensive Care Technician (Paramedic) Program

This advanced emergency medical care program consists of four courses, including a clinical rotation in a hospital setting and a field internship with an ambulance service. You learn emergency procedures such as cardiac monitoring and defibrillation and the administration of medications and IV fluids. Successful completion of this program and subsequent certification exams will enable graduates to work as skilled paramedics and to provide sophisticated, advanced pre-hospital life support.

JCCC's MICT program is fully accredited by the Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP). If you are interested, contact the Admissions office for an application packet, which includes deadlines, admission requirements and options for meeting academic criteria.

This is a selective admission program with limited enrollment. If you are accepted into the program, you take classes in the spring, summer and fall, completing the program in December.

Students successfully completing this program will be allowed to sit for the certification examinations administered by the Kansas Board of Emergency Medical Services.

Emergency Medical Science

Vocational Certificate

First Semester

```
EMS   220  MICT I*...........................................10
EMS   225  MICT II*..........................................10
           TOTAL CREDIT HOURS................................20
```

Second Session

```
EMS   230  MICT III..........................................12
```

Third Semester

```
EMS   271  MICT IV...........................................15
           TOTAL PROGRAM CREDIT HOURS.........................47
*Prerequisite/Corequisite required
```

Emergency Medical Technician Certificate

Emergency Medical Science

Vocational Certificate

```
EMS   130  Emergency Medical Technician*.......................9
           TOTAL PROGRAM CREDIT HOURS..........................9
*Prerequisite/Corequisite required
```

Fashion Merchandising, A.A.S.

Rome, Paris, New York and Tokyo are centers of the fashion world. In today's fast-paced fashion market, these cities aren't that far ahead of your local shopping mall. Fashion is on the move -- in New York, Paris and Johnson County.

At JCCC, the fashion curriculum is designed to prepare you for a career in retail management, retail sales, apparel and textile design, promotion, display, illustration, and representative positions.

The program includes professional courses in merchandising, design, apparel construction, management, visual merchandising, creative selling and merchandise evaluation. To complement your education, you will also study important basic subjects such as business math, English, economics and marketing.

An associate of applied science degree is awarded after successful completion of the 64-credit-hour curriculum in fashion merchandising or fashion design. The program also offers an 18-credit-hour certificate in visual merchandising. Seminars in career options and industry topics are available. Required work-study internships in the fashion business of your choice will give you experience in technical, creative and merchandising skills and make you more marketable in the industry.

With an associate's degree or certificate, you'll be ready to apply your energy and creativity in an industry that rewards both. Or, if you prefer to continue your education, you can complete a bachelor's degree through a transfer program to a college or university.

Fashion Merchandising and Design

Associate of Applied Science Degree

First Semester

```
FASH 277   Fashion Seminar.......................................2
FASH 283   Fashion Internship I..................................1
FASH 121   Fashion Fundamentals..................................3
FASH 220   CAD Apparel Design....................................3
MKT  134   Creative Retail Selling...............................3
ENGL 121   Composition I*........................................3
FASH 135   Image Management......................................1
           TOTAL CREDIT HOURS...................................16
```

Second Semester

```
FASH 242   Consumer Product Evaluation...........................3
FASH 284   Fashion Internship II.................................1
           Health and/or Physical Education Elective............1
MATH 120   Business Math or higher*..............................3
FASH 150   Textiles..............................................3
FASH 125   Visual Merchandising..................................3
BUS  150   Business Communications*..............................3
           TOTAL CREDIT HOURS...................................17
```

Third Semester

```
BUS  225   Human Relations.......................................3
FASH 285   Fashion Internship III................................1
FASH 132   Marketing Communications..............................3
MKT  121   Retail Management.....................................3
ECON 130   Basic Economic Issues.................................3
           or
ECON 230   Economics I...........................................3
           Electives.............................................3
           TOTAL CREDIT HOURS...................................16
```

Fourth Semester

```
FASH 286   Fashion Internship IV.................................1
BUS  230   Marketing.............................................3
FASH 231   Merchandising Planning and Control*...................3
FASH 280   Capstone..............................................3
```

```
             Humanities Elective..................................3
             Electives...........................................3
             TOTAL CREDIT HOURS.................................16
             TOTAL PROGRAM CREDIT HOURS.........................65
```

Recommended Electives

```
FASH 123    Apparel Construction I..............................4
FASH 130    Fashion Illustration I..............................3
FASH 140    Garment Design I*...................................3
FASH 224    History of Costume..................................3
FASH 268    Field Study.........................................3
*Prerequisite/Corequisite required
```

Fashion Design, A.A.S.

Rome, Paris, New York and Tokyo are centers of the fashion world. In today's fast-paced fashion market, these cities aren't that far ahead of your local shopping mall. Fashion is on the move -- in New York, Paris and Johnson County.

At JCCC, the fashion curriculum is designed to prepare you for a career in retail management, retail sales, apparel and textile design, promotion, display, illustration, and representative positions.

The program includes professional courses in merchandising, design, apparel construction, management, visual merchandising, creative selling and merchandise evaluation. To complement your education, you will also study important basic subjects such as business math, English, economics and marketing.

An associate of applied science degree is awarded after successful completion of the 64-credit-hour curriculum in fashion merchandising or fashion design. The program also offers an 18-credit-hour certificate in visual merchandising. Seminars in career options and industry topics are available. Required work-study internships in the fashion business of your choice will give you experience in technical, creative and merchandising skills and make you more marketable in the industry.

With an associate's degree or certificate, you'll be ready to apply your energy and creativity in an industry that rewards both. Or, if you prefer to continue your education, you can complete a bachelor's degree through a transfer program to a college or university.

Fashion Merchandising and Design

Associate of Applied Science Degree

First Semester

```
FASH 121    Fashion Fundamentals................................3
FASH 123    Apparel Construction I..............................4
FASH 135    Image Management....................................1
FASH 220    CAD Apparel Design..................................3
FASH 277    Fashion Seminar.....................................2
ENGL 121    Composition I*......................................3
            TOTAL CREDIT HOURS.................................16
```

Second Semester

```
FASH 124    Apparel Construction II*............................4
FASH 130    Fashion Illustration I..............................3
FASH 150    Textiles............................................3
FASH 224    History of Costume..................................3
            Health and/or Physical Education Elective...........1
            Fashion Elective....................................3
            TOTAL CREDIT HOURS.................................17
```

Third Semester

```
FASH 127  CAD...............................................4
          or
FASH 140  Garment Design I*.................................3
FASH 283  Fashion Internship I..............................1
MATH 120  Business Math or higher*..........................3
          Fashion Electives.................................3
          Elective........................................4-5
          TOTAL CREDIT HOURS...............................15
```

Fourth Semester

```
FASH 242  Consumer Product Evaluation.......................3
FASH 280  Capstone..........................................3
FASH 284  Fashion Internship II.............................1
BUS  150  Business Communications*..........................3
          Humanities Electives..............................3
          Social Science and/or Economics Elective..........3
          TOTAL CREDIT HOURS...............................16
          TOTAL PROGRAM CREDIT HOURS.......................64
```

(Suggested Fashion Electives)

```
FASH 128  CAD...............................................4
FASH 143  Tailoring*........................................4
FASH 230  Fashion Illustration II*..........................3
FASH 268  Field Study.......................................3
BUS  225  Human Relations...................................3
MKT  134  Creative Retail Selling...........................3
*Prerequisite/Corequisite required
```

Visual Merchandising Certificate

The visual merchandising certificate provides students with the opportunity to prepare for positions in the retail and wholesale market as display designers or visual merchandise managers.

Fashion Merchandising and Design

Vocational Certificate

```
FASH 121  Fashion Fundamentals..............................3
FASH 125  Visual Merchandising..............................3
          Fashion Elective..................................3
MKT  121  Retail Management.................................3
ITMD 127  Elements of Floral Design.........................1
ITMD 147  Lighting Design and Planning*.....................1
FASH 283  Fashion Internship I..............................1
FASH 225  Store Planning*...................................3
          TOTAL PROGRAM CREDIT HOURS.......................18
*Prerequisite/Corequisite required
```

(Recommended Fashion Electives for Certificate)

```
FASH 130  Fashion Illustration I............................3
FASH 132  Marketing Communications..........................3
FASH 150  Textiles..........................................3
FASH 242  Consumer Product Evaluation.......................3
```

Fire Services Administration, A.A.

The goal of the fire science program at Johnson County Community College is to provide comprehensive education and training, specifically designed to:

- Promote the academic and professional development of fire service company-level officers.

- Prepare those seeking employment with fire service agencies of Johnson County. The program serves to provide higher academic education, technical training and lifelong learning for members of Johnson County fire-related organizations and those seeking employment in those organizations.

The fire science program at JCCC, in close cooperation with the Johnson County Fire Chiefs Association and the University of Kansas fire service training program, has developed a degree for advancement in the fire service and for further study toward the baccalaureate degree at a four-year institution, should you elect to pursue your education goals beyond the associate's level.

The program emphasizes general education in addition to technical education and is built around a core of fire science courses carefully selected by the members of the Fire Science Advisory Committee to prepare for your career growth. Technical electives may be pursued through courses available under a continuing cooperative agreement between area fire science programs or through other degree-granting institutions that are accredited by the International Fire Service Accreditation Congress. The transfer of credit from other institutions is governed by JCCC policy. You may fulfill technical education requirements through the advanced standing credit process.

JCCC also offers course work that will prepare you to take the Fire Fighter I and II certification examinations offered by the University of Kansas Fire Service Training program. This course work includes FIRE 110, Essentials of Fire Fighting; EMS 130; HPER 240, Lifetime Fitness I; or equivalent. HPER 240, Lifetime Fitness I, is the prerequisite/corequisite for FIRE 110, Essentials of Fire Fighting.

Note: Mechanisms have been developed to compensate for the effect of students working 24-hour shifts.

Associate of Arts Degree

Prerequisite

```
Prior to admission into any FIRE course, the
student must possess an International Fire Service
Accreditation Congress certification as a firefighter
or be an active member in a fire-related occupation.
```

First Semester

```
ENGL 121  Composition I*........................................3
BUS  140  Principles of Supervision............................3
MATH 171  College Algebra.......................................3
FIRE 162  Fire Tactics and Strategy............................3
          Social Science Elective..............................3
          Health and/or Physical Education Elective...........1
          TOTAL CREDIT HOURS..................................16
```

Second Semester

```
ENGL 122  Composition II*.......................................3
BUS  141  Principles of Management.............................3
FIRE 224  Incident Command Systems.............................3
          Humanities Elective..................................3
          Physical Science, with lab...........................4
          TOTAL CREDIT HOURS..................................16
```

Third Semester

```
FIRE 135  Building and Fire Codes..............................3
FIRE 130  Fire Investigation...................................1
FIRE 222  Fire Law.............................................3
          Technical Electives..................................3
          Oral Communication...................................3
          Science and/or Math Elective.........................3
```

```
                TOTAL CREDIT HOURS.................................16
```

Fourth Semester

```
FIRE 220   Fire Administration...................................3
FIRE 250   Instructional Methods.................................3
           Technical Electives...................................4
           Humanities Electives..................................3
           Social Science Elective...............................3
           TOTAL CREDIT HOURS...................................16
           TOTAL PROGRAM CREDIT HOURS...........................64
```

Technical Electives

```
FIRE 175   Essentials of Fire Fighting*..........................9
EMS  128   EMS First Responder...................................5
EMS  130   Emergency Medical Technician*.........................9
EMS  220   MICT I*..............................................10
EMS  225   MICT II*.............................................10
CS   200   Concepts of Programming Algorithms....................4
CS   205   Concepts of Program Algorithms Using Java*............4
CS   210   Discrete Structures I*................................3
CIS  162   Database Programming*.................................4
CIS  242   Systems Design and Analysis*..........................3
CIS  243   Object-oriented Analysis and Design*..................4
CIS  258   Operating Systems*....................................3
CIS  204   UNIX OS and Perl*.....................................3
BUS  120   Management Attitudes and Motivation...................3
BUS  121   Introduction to Business..............................3
BUS  145   Small Business Management.............................3
BUS  150   Business Communications*..............................3
BUS  225   Human Relations.......................................3
BUS  230   Marketing.............................................3
BUS  243   Human Resource Management.............................3
BUS  261   Business Law I........................................3
*Prerequisite/Corequisite required
```

Grounds and Turf Management

The program offers training in professional grounds management and golf course management, providing a study of soils, fertilizers, grasses, trees and pesticide application procedures. The program also prepares grounds professionals to take the state of Kansas pesticide applicator's exam.

The JCCC grounds and turf management program is a cooperative program with Longview Community College for Johnson County residents leading to a certificate and/or an associate of applied science degree. You must be accepted by both JCCC and Longview to be admitted to this program. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact Longview Community College at 816-672-2364 for an application packet, which includes deadlines, admission requirements and options for meeting academic criteria.

Associate of Applied Science Degree

```
Degree granted by Longview Community College
```

(General Education Requirements-must can be taken at JCCC)

```
ECON 130   Basic Economic Issues.................................3
ENGL 121   Composition I*........................................3
MATH 120   Business Math*........................................3
HPER 190   Golf..................................................1
PSYC 130   Introduction to Psychology............................3
SPD  121   Public Speaking.......................................3
```

American Institutions

```
HIST 140  U............................................................3
          or
HIST 141  U............................................................3
          or
POLS 122  Political Science...........................................3
          or
POLS 124  American National Government................................3
          or
POLS 126  State and Local Government..................................3
SOSC 153  Readings in Social Science-Missouri.....................
          Constitutions (must take at MCC)......................1
```

(Specific Program Requirements-must be taken at JCCC)

```
BIOL 125  General Botany...............................................5
CHEM 122  Principles of Chemistry.....................................5
HORT 120  Introduction to Urban Agribusiness.........................3
HORT 130  Landscape Design and Maintenance...........................3
HORT 140  Turfgrass Management I......................................3
HORT 214  Woody Plants I, Deciduous..................................3
HORT 255  Landscape Pest Control.....................................3
```

(Specific Program Requirements-must be taken at Longview)

```
KAGB 115  Soil Fertility and Fertilizers............................3
KAGB 145  Irrigation and Installation...............................3
BIOL 202  Ecology.....................................................5
```

(9 Hours from the courses listed below:)

```
May be taken at JCCC
HORT 215  Woody Plants II, Evergreens^..............................3
          or
HORT 220  Herbaceous Plants..........................................3
HORT 240  Turfgrass Management II*^..................................3
          ^may be taken at JCCC and/or Longview
Must be taken at Longview
KAGB 151  Special Topics in Horticulture I..........................3
KAGB 152  Special Topics in Horticulture II.........................3
KAGB 153  Special Topics in Horticulture III........................3
KAGB 200  Occupational Internship....................................3
KAGB 206  Advanced Landscape Design*................................3
          TOTAL PROGRAM CREDIT HOURS...............................64
*Prerequisite/Corequisite required
```

Health Information Technology

A health information technician has the technical skills needed to maintain the components of health information systems consistent with the medical, administrative, ethical, legal accreditation and regulatory requirements of the health care delivery system. Area hospitals and a variety of other health facilities in the community offer field experience in all procedures performed by the health information technician. When the 69-credit-hour program has been completed and the associate of applied science degree obtained, you will be eligible to take the accreditation examination of the American Association of Health Information Management.

Health information technology is a cooperative program between JCCC and Penn Valley Community College for Johnson County residents. You must be accepted into the program by both JCCC and Penn Valley. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact Penn Valley Community College at 816-759-4231 for an application packet, which includes deadlines, program prerequisites and admission requirements.

Associate of Applied Science Degree

Degree granted by Penn Valley Community College

(General Education Requirements-must be taken at JCCC)

```
BIOL 144   Human Anatomy and Physiology.........................5
BIOL 227   Human Pathophysiology*...............................4
ENGL 121   Composition I*.......................................3
SPD  121   Public Speaking......................................3
           Elective (Intro to Psych strongly recommended).......3
```

American Institutions

```
HIST 140   U...................................................3
           or
HIST 141   U...................................................3
           or
POLS 122   Political Science...................................3
           or
POLS 124   American National Government.......................3
           or
POLS 126   State and Local Government..........................3
SOSC 153   Readings in Social Science-Missouri..................
           Constitutions (must take at MCC)....................1
```

(Specific Program Requirements-must be taken at JCCC)

```
BOT  155   Word Processing Applications I*.....................2
CIS  124   Intro Computing Concepts and Applications...........3
           or
CPCA 110   Spreadsheets on Microcomputers I*..................1
           and
CPCA 114   Databases on Microcomputers I*.....................1
           and
CPCA 141   Internet I*........................................1
```

(Specific Program Requirements-must be taken at Penn Valley)

```
KMRT 101   Intro to the Medical Records Profession.............2
KMRT 102   Health Record Systems, Analysis/Control.............3
KMRT 103   Medical Terminology for Medical Records.............3
KMRT 106   Health Statistics...................................3
KMRT 108   Legal Aspects of Medical Records....................2
KMRT 109   Directed Practice I.................................2
KMRT 110   Pharmacology........................................1
KMRT 111   Intro Medical Insurance & Office Procedure..........1
KMRT 200   Intro to Classification Systems*....................1
KMRT 201   Quality Management..................................3
KMRT 202   Class Syst, Nomenclatures,Indexes & Regis I.........4
KMRT 203   Directed Practice II................................2
KMRT 206   Specialized Health Records Systems..................2
KMRT 207   Class Syst, Nomenclatures,Indexes & Regis II........3
KMRT 208   Directed Practice III...............................2
KMRT 210   Class Syst and Nomenclatures Ambulatory Care*.......3
KMRT 211   Organization & Administration in Health Info........3
           TOTAL PROGRAM CREDIT HOURS.........................69
*Prerequisite/Corequisite required
```

Cardiopulmonary Resuscitation

Designed for healthcare workers

Health Occupations

Area Vocational School Certificate

```
8 contact hours
AVHO 110  CPR for Health Care Providers........................0
```

Certified Medication Aide

This 80-hour course covers information related to many commonly prescribed medications. Students learn the classification, side effects and techniques of administration, including preparations and accurate distribution of medications.

The safety of clients in long-term care is also discussed and demonstrated by students in this course. Enrollees in this course must show proof of Kansas CNA certification and complete a reading level exam/assessment prior to admission. The Kansas CMA examination is administered to successful completers of this course.

The employment outlook for the future is excellent. Facilities employing the CMA include long-term care nursing centers as well as other types of group homes and agencies.

Health Occupations

Area Vocational School Certificate

```
80 hours of instruction
AVHO 104  Certified Medication Aide*...........................0
*Prerequisite/Corequisite required
```

Cert Medication Aide Update

Certified medication aides in Kansas are required to obtain 10 hours of continuing education every two years to renew the CMA certificate. This course meets the state requirements for recertification. This update course includes review of commonly used drugs and their interactions with foods and other drugs.

Students will discuss and identify legal implications and regulations related to administration and record keeping. Biological effects of medications on the elderly and basic safety principles are reviewed and discussed with other CMAU course participants. A roster of CMAs who complete the update course will be submitted to the Department of Health and Environment for certificate renewal.

Area Vocational School Certificate

```
10 contact hours
AVHO 108  Certified Medication Aide Update*....................0
*Prerequisite/Corequisite required
```

Certified Nurse Aide

This 96-hour course provides classroom and clinical instruction for basic care of clients in long-term and acute-care facilities. Students will learn skills for daily hygiene, bedside care, vital-sign measurement, positioning and safe transfer of clients. You will learn about common health problems and chronic illnesses. Clinical practice sessions are conducted in the nursing home setting.

Employment for workers with CNA skills and training is abundant in long-term care facilities. Acute-care hospitals also employ basic patient care aides who are willing to learn advanced skills.

Enrollees for this course must pass a reading level exam/assessment prior to admission. Upon successful completion of the course, students will be scheduled to take the Kansas CNA examination.

Area Vocational School Certificate

```
96 contact hours
```

```
AVHO 102  Certified Nurse Aide...............................0
```

Certified Nurse Aide Refresher

The CNA in Kansas is required to work at least eight hours a year for the CNA certificate to remain active. If the CNA does not work for two years, a 10-hour refresher course must be completed. This course meets the state requirement to activate the CNA certificate.

This course includes five hours of classroom instruction and five hours of laboratory experience. Students will discuss the nurse aide's responsibility in the current health care system and the importance of resident's rights. The student will demonstrate safety measures, infection control procedures, personal care skills, measurement of vital signs and transfers, positioning and turning.

Area Vocational School Certificate

```
10 contact hours
AVHO 103  Certified Nurse Aide Refresher course*...............0
*Prerequisite/Corequisite required
```

Home Health Aide Certificate

Home health care services are in demand, and continued growth in employment opportunities is expected into the next century. Home health aides may be required to provide support services for all age levels in the home setting. This 21-hour course will provide you with information necessary for nutritional meal planning, task modification, emotional support and personal services to clients and families needing health care assistance at home.

Enrollees for home health aide training must show proof of certification as a Kansas CNA and complete a reading comprehension exam/assessment prior to admission. The HHA course includes a practicum with local home health agencies. Completers will be scheduled to take the Kansas HHA certification examination.

Health Occupations

Area Vocational School Certificate

```
21 contact hours
AVHO 106  Home Health Aide*....................................0
*Prerequisite/Corequisite required
```

IV Therapy for LPN Certificate

This 48-hour course is designed to prepare the student for clients who require intravenous fluid therapy. Students are required to have at least one year of experience as a licensed nurse prior to taking this course. This course meets the Kansas requirements for nurses seeking certification in IV therapy.

During this course, you will review basic physiology of the circulatory system and learn principles of site selection for veins appropriate to assess for IV therapy. A pharmacology review will include action, interaction, breakdown and allergic responses to medications commonly administered via the intravenous route.

Equipment and supplies routinely used to initiate and administer IV therapy will be used in instruction. Principles of infection control, correct legal documentation and calculation of infusion rates will be taught.

You will use the laboratory setting to demonstrate the basic skills of initiating intravenous therapy along with a clinical session in a hospital setting. Upon completion of clinical requirements, a written comprehensive examination must be completed to earn IV therapy certification.

Health Occupations

Area Vocational School Certificate

```
48 contact hours
AVHO 115  I..............................................0
*Prerequisite/Corequisite required
```

Occupational Therapy Assistant

The occupational therapy assistant works under the supervision of a registered occupational therapist, helping people with emotional and developmental limitations achieve more functional lives. Graduates are eligible to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of the exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination.

The JCCC occupational therapy assistant program is offered to Johnson County residents in cooperation with Penn Valley Community College. The support courses are held at JCCC. The clinical courses are held at Penn Valley or at affiliated clinical agencies. You must be accepted into the program by both JCCC and Penn Valley. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact Penn Valley Community College at 816-759-4231 for an application packet, which includes deadlines, program prerequisites and admission requirements.

Health Occupations

Associate of Applied Science Degree

```
Degree granted by Penn Valley Community College
```

(General Education Requirements-must be taken at JCCC)

```
ENGL 121  Composition I*......................................3
SPD  121  Public Speaking.....................................3
PSYC 130  Introduction to Psychology..........................3
```

American Institutions

```
HIST 140  U.................................................3
          or
HIST 141  U.................................................3
          or
POLS 122  Political Science...................................3
          or
POLS 124  American National Government........................3
          or
POLS 126  State and Local Government...........................3
SOSC 153  Readings in Social Science-Missouri...................
          Constitutions (must take at MCC).....................1
```

(Prerequisite Courses-must be taken at JCCC

```
CHEM 122  Principles of Chemistry.............................5
AAC  130  Medical Terminology.................................3
```

(Specific Program Requirements-must be taken at JCCC)

Option 1

```
BIOL 144  Human Anatomy and Physiology........................5
          and
BIOL 145  Human Anatomy/Physiology Dissection*................1
```

```
                 (BIOL 144 must be taken first)
                 or
```

Option 2

```
BIOL 140   Human Anatomy.......................................4
           and
BIOL 225   Human Physiology*...................................4
           (BIOL 140 and CHEM 122 must be taken
           before BIOL 225)
```

(Specific Program Requirements-must be taken at Penn Valley)

```
KOT  112   Basic Emergency Patient Care........................1
KOT  100   Intro to Occupational Therapy.......................2
KOT  102   Documentation Guidelines*...........................2
KOT  103   Clinical Conditions*................................2
KOT  106   Therapeutic Interventions*..........................4
KOT  116   Level I Fieldwork I*................................1
KOT  118   Assistive Technology*...............................2
KOT  120   Pediatrics*.........................................3
KOT  121   Level Fieldwork II*.................................5
KOT  130   Analysis of Physical Performance*...................3
KOT  154   Applied Neurology*..................................2
KOT  201   Mental Health*......................................2
KOT  202   Physical Dysfunction*...............................3
KOT  203   Gerontology*........................................3
KOT  208   Splinting*..........................................2
KOT  212   Level I Fieldwork III*..............................2
KOT  217   Fieldwork Seminar*..................................3
KOT  222   Level II Fieldwork*................................12
           TOTAL PROGRAM CREDIT HOURS.........................77
*Prerequisite/Corequisite required
```

Physical Therapist Assistant

The physical therapist assistant, under the supervision of a licensed physical therapist, performs direct patient care. The therapist uses physical agents such as heat, light, sound, water, cold, massage, exercise and rehabilitation techniques as prescribed by a physician. The Commission on Accreditation in Physical Therapy Education accredits the program.

The JCCC physical therapist assistant program is offered to Johnson County residents in cooperation with Penn Valley Community College. The support courses are held at JCCC. All the clinical courses are held at Penn Valley and affiliated clinical agencies. You must be accepted into the program by both JCCC and Penn Valley. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact Penn Valley Community College at 816-759-4231 for an application packet, which includes deadlines, program prerequisites and admission requirements.

Health Occupations

Associate of Applied Science Degree

```
Degree granted by Penn Valley Community College
```

(General Education Requirements-must be taken at JCCC)

```
ENGL 121   Composition I*......................................3
SPD  121   Public Speaking.....................................3
PSYC 130   Introduction to Psychology..........................3
```

American Institutions

```
HIST 140  U......................................................3
          or
HIST 141  U......................................................3
          or
POLS 122  Political Science......................................3
          or
POLS 124  American National Government...........................3
          or
POLS 126  State and Local Government.............................3
SOSC 153  Readings in Social Science-Missouri....................
          Constitutions (Must take at MCC)......................1
```

(Prerequisite Courses-must be taken at JCCC)

```
CHEM 122  Principles of Chemistry................................5
AAC  130  Medical Terminology....................................3
```

(Specific Program Requirements-must be taken at JCCC)

Option 1

```
BIOL 144  Human Anatomy and Physiology...........................5
          and
BIOL 145  Human Anatomy/Physiology Dissection*...................1
          (BIOL 144 must be taken first)
          or
```

Option 2

```
BIOL 140  Human Anatomy..........................................4
          and
BIOL 225  Human Physiology*......................................4
          (BIOL 140 and CHEM 122 must be taken
          before BIOL 225)
```

(Specific Program Requirements-must be taken at Penn Valley)

```
KPT  102  Basic Emergency Patient Care...........................1
KPT  151  Intro to Physical Therapy..............................2
KPT  152  Physical Therapy Fundamentals I*.......................4
KPT  153  Kinesiology*...........................................4
KPT  154  Applied Neurology*.....................................2
KPT  155  Rehabilitation*........................................4
KPT  158  Therapeutic Exercise*..................................4
KPT  159  Orthopedic Pathology*..................................2
KPT  160  Medical Diseases*......................................2
KPT  161  Physical Therapy Fundamentals II*......................4
KPT  162  Clinical Experience I*.................................2
KPT  164  Pediatrics and Gerontology*............................2
KPT  170  Clinical Experience II*................................2
KPT  171  Clinical Seminar*......................................2
KPT  172  Clinical Experience III*..............................12
          TOTAL PROGRAM CREDIT HOURS............................76
*Prerequisite/Corequisite required
```

Radiologic Technology, A.A.S.

The radiologic technology curriculum (X-ray technology) consists of a continuous 24-month period of study. Areas of study are radiographic exposure, positioning and anatomy, and the use of imaging equipment. The program is fully accredited by the Joint Review Committee on Education in Radiologic Technology.

The JCCC radiologic technology program is offered to Johnson County residents in cooperation with Penn Valley Community College. Related courses are taken at JCCC with lab and clinical courses held at Penn Valley or at a cooperating health facility. You must be accepted into the program by Penn Valley and JCCC. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact Penn Valley Community College at 816-759-4231 for an application packet, which includes deadlines, admission requirements and options for meeting academic criteria.

Health Occupations

Associate of Applied Science Degree

Degree granted by Penn Valley Community College

(General Education Requirements-must be taken at JCCC)

```
ENGL 121  Composition I*.......................................3
SPD  121  Public Speaking......................................3
PSYC 130  Introduction to Psychology...........................3
```

American Institutions

```
HIST 140  US History to 1877...................................3
          or
HIST 141  US History since 1877................................3
          or
POLS 122  Political Science....................................3
          or
POLS 124  American National Government.........................3
          or
POLS 126  State and Local Government...........................3
SOSC 153  Missouri Constitutions...............................1
```

(Specific Program Requirements-must be taken at JCCC)

```
BIOL 140  Human Anatomy........................................4
AAC  130  Medical Terminology..................................3
```

(Specific Program Requirements-must be taken at Penn Valley)

```
KRAD 150  Introduction to Radiologic Technology................1
KRAD 160  Survey of Radiologic Technology*.....................6
KRAD 162  Image Processing*....................................2
KRAD 165  Patient Care*........................................2
KRAD 170  Radiologic Biology and Protection*...................3
KRAD 171  Radiographic Exposures I*............................3
KRAD 172  Radiographic Positioning I*..........................3
KRAD 173  Clinical Training I*.................................3
KRAD 174  Radiographic Exposures II*...........................3
KRAD 175  Clinical Training II*................................4
KRAD 176  Radiographic Positioning II*.........................3
KRAD 178  Clinical Training III*...............................4
KRAD 278  Imaging Modalities and Pathology*....................3
KRAD 279  Radiographic Positioning III*........................2
KRAD 280  Clinical Training IV*................................4
KRAD 281  Radiation Physics*...................................3
KRAD 282  Clinical Training V*.................................4
KRAD 283  Final Seminar*.......................................2
KRAD 285  Special Procedures*..................................2
          TOTAL PROGRAM CREDIT HOURS...........................76
*Prerequisite/Corequisite required
```

Rehabilitative Aide Cert

The 32-hour rehabilitative aide course includes both classroom and laboratory instruction. The role of the rehabilitative aide as a member of the health care team and in the aging process are emphasized. Students learn skills required to enhance the ability of elderly residents in long-term care. Skills required for residents with special needs are also learned.

Area Vocational School Certificate

```
32 contact hours
AVHO 112  Rehabilitative Aide*................................0
*Prerequisite/Corequisite required
```

Surgical Technology Cert

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

JCCC offers the cooperative surgical vocational certificate program for Johnson County residents with Penn Valley Community College. You must be accepted into the program at both Penn Valley Community College and JCCC. Consult with a JCCC counselor for more information. Students must be a resident of Johnson County in order to receive in-state tuition rates.

Program courses and credit hours are subject to change at the certificate-granting institution. Contact Penn Valley Community College at 816-759-4231 for an application packet, which includes deadlines, program prerequisites, and admission requirements.

Health Occupations

Vocational Certificate

```
Certificate granted by Penn Valley Community College
The following courses should be taken first at JCCC
BIOL 144  Human Anatomy and Physiology..........................5
BIOL 145  Human Anatomy/Physiology Dissection*.................1


Specific Program Requirements
Must be taken at Penn Valley
KST  100  Introduction to Surgical Technology...................2
KST  102  Fundamentals of Operating Techniques.................11
KST  105  Pharmacology for the Surgical Technologist............2
KST  106  Aseptic Technique for Surgical Technologist..........2
KST  109  Principles of Surgical Procedures I...................8
KST  110  Principles of Surgical Procedures II..................7
KST  114  Principles of Surgical Procedures III.................7
KST  116  Career Development for the Surgical Tech..............2
          TOTAL PROGRAM
          CREDIT HOURS.......................................47
*Prerequisite/Corequisite required
```

HVAC Commercial Service Technician, A.A.S.

Modern residential, commercial, institutional and manufacturing operations depend on carefully monitored temperature conditions and well-trained installation and service technicians. Government researchers say graduates of training programs that emphasize hands-on experience will have a definite advantage when seeking employment in heating, ventilation and air conditioning technology. JCCC provides you the opportunity to work on actual equipment while pursuing a degree or certificate program. The 64-credit-hour associate of applied science degree program focuses on developing an awareness of basic mathematical and scientific principles. The curriculum is concerned with the manner by which these principles affect the control of temperature and the quality of air, design, testing, installation and development of heating and cooling systems.

If you select the commercial maintenance technician degree, you will learn the special emphasis is on energy conservation through computer management. The theory of operation as well as installation, service and repair of rooftop air conditioners, cooling towers, steam boilers and commercial systems air conditioning are part of the curriculum. In addition to the 31 core hours, the

following courses are required for the A.A.S. degree, facilities maintenance technician option.

Heating, Ventilation, & Air Conditioning Technology

Associate of Applied Science Degree

First Semester

```
HVAC 121   Basic Principles of HVAC*...........................4
HVAC 123   Electromechanical Systems...........................4
HVAC 143   Reading Blueprints and Ladder Diagrams..............2
HVAC 155   Workplace Skills...................................1
INDT 125   Industrial Safety..................................3
ENGL 121   Composition I*.....................................3
EMS  121   CPR I-Basic Life Support Healthcare Provider........1
           TOTAL CREDIT HOURS................................18
```

Second Semester

```
HVAC 146   Plumbing Systems Applications......................3
HVAC 150   Refrigerant Management and Certification............1
HVAC 167   Sheet Metal Layout & Fabrication...................3
HVAC 221   Commercial Systems.................................4
HVAC 231   HVAC Rooftop Units*................................3
           TOTAL CREDIT HOURS................................14
```

Third Semester

```
MATH 133   Technical Mathematics I*...........................4
           Social Science and/or Economic Elective............3
HVAC 223   Commercial Systems.................................4
ELTE 122   National Electrical Code I.........................4
CPCA 105   Introduction to Personal Computers.................1
           TOTAL CREDIT HOURS................................16
```

Fourth Semester

```
HVAC 229   Advanced Controls Systems*.........................4
ELTE 205   Industrial Electrical Wiring*......................4
           Technical Elective.................................2
           Humanities Elective................................3
           General Education Elective.........................3
           TOTAL CREDIT HOURS................................16
           TOTAL PROGRAM CREDIT HOURS........................64
```

Technical Electives

```
HVAC 125   Energy Alternatives................................2
HVAC 271   HVAC Internship*...................................3
HVAC 291   Independent Study..................................1
ELTE 125   Residential Wiring Methods*........................4
```

(General Education Electives)

```
ENGL 123   Technical Writing I*...............................3
SPD  120   Interpersonal Communication........................3
*Prerequisite/Corequisite required
```

HVAC Commercial Service Technician Certificate

The postsecondary certificate program is designed to prepare you for the basic job skills needed to service and maintain heating and air conditioning equipment. Students who elect the facilities maintenance technician certificate option learn the theory of operation and how to service, repair and design rooftop air

conditioners, cooling towers, steam boilers and commercial systems air conditioners. This knowledge is reinforced by working on actual equipment in the laboratory. Completion of this program will allow the student to seek employment as a commercial maintenance and service technician in the heating/air conditioning trade.

Heating, Ventilation, & Air Conditioning Technology

Postsecondary Certificate

```
ENGL 121   Composition I*.......................................3
HVAC 121   Basic Principles of HVAC*.............................4
HVAC 123   Electromechanical Systems.............................4
HVAC 143   Reading Blueprint and Ladder Diagrams................2
HVAC 150   Refrigerant Management and Certification.............1
HVAC 167   Sheet Metal Layout and Fabrication...................3
HVAC 221   Commercial Systems...................................4
HVAC 223   Commercial Systems...................................4
HVAC 229   Advanced Controls Systems*...........................4
HVAC 231   HVAC Rooftop Units*..................................3
INDT 125   Industrial Safety....................................3
HVAC 155   Workplace Skills.....................................1
MATH 115   Introduction to Algebra*.............................3
           TOTAL PROGRAM CREDIT HOURS..........................39
*Prerequisite/Corequisite required
```

HVAC Installation Technician Certificate

The heating, ventilation and air conditioning vocational certificate program is a one-year program you can complete in two semesters. The program is designed as a fast track to employment for both new students into the job market and those who have been displaced from their jobs due to changes in the employment market. Upon successful completion of the program, you will be equipped with the entry-level technical skills necessary to enter the job market as an installation technician in the heating/air conditioning trade.

Heating, Ventilation, & Air Conditioning Technology

Vocational Certificate

Required Courses

```
HVAC 121   Basic Principles of HVAC*.............................4
HVAC 123   Electromechanical Systems.............................4
HVAC 167   Sheet Metal Layout and Fabrication...................3
HVAC 155   Workplace Skills.....................................1
INDT 125   Industrial Safety....................................3
HVAC 148   HVAC Installation and Start-up Procedures*...........3
HVAC 146   Plumbing Systems Applications........................3
HVAC 143   Reading Blueprint and Ladder Diagrams................2
HVAC 124   Equipment Selection and Duct Design*.................4
HVAC 150   Refrigerant Management and Certification.............1
           TOTAL PROGRAM CREDIT HOURS..........................28
*Prerequisite/Corequisite required
```

HVAC Residential Service Technician, A.A.S.

Modern residential, commercial, institutional and manufacturing operations depend on carefully monitored temperature conditions and well-trained installation and service technicians. Government researchers say graduates of training programs that emphasize hands-on experience will have a definite advantage when seeking employment in heating, ventilation and air conditioning technology. JCCC provides you the opportunity to work on actual equipment while pursuing a degree or certificate program. The 64-credit-hour associate of applied science degree program focuses on developing an awareness of basic mathematical and scientific principles. The curriculum is concerned with the manner by which these

principles affect the control of temperature and the quality of air, design, testing, installation and development of heating and cooling systems.

If you select the residential degree, you will learn the theory of operation as well as installation, duct design, service and repair of gas and electric furnaces, heat pumps and central air conditioners. In addition to the 31 core hours, the following courses are required for the A.A.S. degree, residential option.

Heating, Ventilation, & Air Conditioning Technology

Associate of Applied Science Degree

First Semester

```
HVAC 121   Basic Principles of HVAC*............................4
HVAC 123   Electromechanical Systems............................4
HVAC 143   Reading Blueprint and Ladder Diagrams...............2
HVAC 155   Workplace Skills....................................1
INDT 125   Industrial Safety...................................3
ENGL 121   Composition I*......................................3
EMS  121   CPR I-Basic Life Support Healthcare Provider........1
           TOTAL CREDIT HOURS.................................18
```

Second Semester

```
HVAC 146   Plumbing Systems Applications.......................3
HVAC 150   Refrigerant Management and Certification............1
HVAC 137   Residential Systems.................................4
HVAC 124   Equipment Selection and Duct Design*................4
HVAC 167   Sheet Metal Layout and Fabrication..................3
           TOTAL CREDIT HOURS.................................15
```

Third Semester

```
MATH 133   Technical Mathematics I*............................4
           Social Science and/or Economics Elective...........3
HVAC 127   Residential Systems.................................4
HVAC 148   HVAC Installation and Start-up Procedures*.........3
           Technical Elective.................................3
           TOTAL CREDIT HOURS.................................17
```

Fourth Semester

```
HVAC 235   Residential Heat Pump Systems*......................4
           Humanities Elective................................3
           Technical Electives................................4
           General Education Elective.........................3
           TOTAL CREDIT HOURS.................................14
           TOTAL PROGRAM CREDIT HOURS.........................64
```

(Technical Electives)

```
AUTO 230   Automotive Heating and Air Conditioning*............3
ELTE 122   National Electrical Code I..........................4
ELTE 125   Residential Wiring Methods*.........................4
HVAC 125   Energy Alternatives.................................2
HVAC 271   HVAC Internship*....................................3
HVAC 291   Independent Study...................................1
```

(General Education Electives)

```
ENGL 123   Technical Writing I*................................3
SPD  120   Interpersonal Communication.........................3
*Prerequisite/Corequisite required
```

HVAC Residential Service Technician Certificate

The postsecondary certificate program is designed to prepare you for the basic job skills needed to service residential heating and air conditioning equipment. Students who elect the residential service certificate option learn the theory of operation and how to service, repair and design gas furnaces, central air conditioners, heat pumps and rooftop air conditioning systems. This knowledge is reinforced by working on actual equipment in the laboratory. Completion of this program will allow the student to seek employment as a residential maintenance and service technician in the heating/air conditioning trade.

Heating, Ventilation, & Air Conditioning Technology

Postsecondary Certificate

Required Courses

```
ENGL 121   Composition I*........................................3
HVAC 121   Basic Principles of HVAC*............................4
HVAC 123   Electromechanical Systems...........................4
HVAC 124   Equipment Selection and Duct Design*................4
HVAC 150   Refrigerant Management and Certification............1
HVAC 137   Residential Systems.................................4
HVAC 127   Residential Systems.................................4
HVAC 235   Residential Heat Pump Systems*......................4
HVAC 167   Sheet Metal Layout and Fabrication..................3
HVAC 155   Workplace Skills....................................1
MATH 115   Introduction to Algebra*............................3
           Technical Electives.................................3
           TOTAL  PROGRAM CREDIT HOURS........................38
```

Technical Electives

```
HVAC 125   Energy Alternatives.................................2
HVAC 143   Reading Blueprints and Ladder Diagrams..............2
HVAC 271   HVAC Internship*....................................3
HVAC 291   Independent Study...................................1
CPCA 105   Introduction to Personal Computers..................1
INDT 125   Industrial Safety...................................3
*Prerequisite/Corequisite required
```

Horticulture Certificate

Programs in some career areas are made available by means of cooperative agreements with other educational institutions. These cooperative agreements have resulted in the sharing of programming, curriculum and staffing in the greater Kansas City area and have promoted increased economies of operations for cooperating institutions. The horticultural certificate program is a cooperative program with the Metropolitan Community Colleges.

The 30-credit-hour certificate granted by Johnson County Community College is a certificate program designed to prepare students for a career in the "greening industry." Upon completion of this certificate, students will possess the competencies to be successful at entry-level or higher positions in landscape design and maintenance, lawn care, garden centers and nurseries, wholesale greenhouse growers, and greenhouse operations and other related occupations.

Missouri students should refer to Reverse Cooperative information: http://www.jccc.net/home/handbook/student.php/toc_hb1/toc_admissions/coop_programs

Science Department

Vocational Certificate

First Semester

```
HORT 214   Woody Plants I, Deciduous...........................3
HORT 220   Herbaceous Plants...................................3
           TOTAL CREDIT HOURS..................................6
```

Second Semester

```
HORT 215   Woody Plants II, Evergreens..........................3
HORT 225   Plant Problems*......................................3
HORT 130   Landscape Design and Maintenance.....................3
           TOTAL CREDIT HOURS...................................9
```

Third Semester

```
HORT 230   Landscape Maintenance Techniques*....................4
HORT 140   Turf Management I....................................3
           TOTAL CREDIT HOURS...................................7
```

Fourth Semester

```
HORT 150   Fruits, Vegetables and Herb Crops....................2
HORT 160   Garden Center Operations.............................3
BUS  145   Small Business Management............................3
           TOTAL CREDIT HOURS...................................8
           TOTAL PROGRAM CREDIT HOURS..........................30
*Prerequisite/Corequisite required
```

Chef Apprenticeship, A.A.S.

The hospitality management program at JCCC is a comprehensive study of the food service and public lodging industries. The program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

The chef apprenticeship program at the college is sponsored by the American Culinary Federation and the U.S. Department of Labor. The three-year program has special admission requirements. You must be 18 years old and have a high school diploma or the equivalent.

The career program features formal course work along with the opportunity to actually practice such skills as baking, menu planning, food purchasing, beverage control and food preparation. After job placement, you join the American Culinary Federation Educational Institute for registered apprentice membership. Likewise, you register with the Department of Labor and will be officially indentured to supervising chefs and the sponsoring American Culinary Federation affiliate chapter for 6,000 hours. The program consists of 74 credit hours and leads to an associate of applied science degree.

Missouri students should refer to Reverse Cooperative Program Information, see url: http://www.jccc.net/cooperative

Hospitality Management

Associate of Applied Science Degree

First Semester

```
HMGT 121   Hospitality Management Fundamentals..................3
HMGT 123   Basic Food Preparation..............................3
MATH 120   Business Math or higher*............................3
CPCA 105   Introduction to Personal Computing..................1
           or
CPCA 106   Introduction to Personal Computing..................1
HMGT 281   Culinary Practicum I*...............................2
           TOTAL CREDIT HOURS.................................12
```

Second Semester

```
HMGT 273   Hospitality Cost Accounting*........................3
HMGT 230   Intermediate Food Preparation*......................3
HMEC 151   Nutrition and Meal Planning.........................3
HMGT 282   Culinary Practicum II*..............................2
           TOTAL CREDIT HOURS.................................11
```

Summer

```
ENGL 121   Composition I*.......................................3
SPD  120   Interpersonal Communication..........................3
           or
SPD  125   Personal Communication...............................3
           TOTAL CREDIT HOURS...................................6
```

Third Semester

```
HMGT 130   Hospitality Law......................................3
HMGT 271   Seminar in Hospitality Management....................3
HMGT 145   Food Production Specialties*.........................3
HMGT 285   Culinary Practicum III*..............................2
           TOTAL CREDIT HOURS..................................11
```

Fourth Semester

```
HMGT 226   Garde-manger*........................................3
HMGT 223   Fundamentals of Baking*..............................3
HMGT 277   Sem in Hospitality Management........................3
HMGT 286   Culinary Practicum IV*...............................2
           TOTAL CREDIT HOURS..................................11
```

Fifth Semester

```
HMGT 231   Advanced Food Preparation*...........................4
HMGT 279   Beverage Control.....................................3
PSYC 121   Applied Psychology...................................3
           or
PSYC 130   Introduction to Psychology...........................3
HMGT 287   Culinary Practicum V*................................2
           TOTAL CREDIT HOURS..................................12
```

Sixth Semester

```
HMGT 128   Supervisory Management...............................3
HMGT 228   Advanced Hospitality Management*.....................3
HMGT 288   Culinary Practicum VI*...............................2
           Humanities Elective..................................3
           TOTAL CREDIT HOURS..................................11
           TOTAL PROGRAM CREDIT HOURS..........................74
*Prerequisite/Corequisite required
```

Food and Beverage Management, A.A.S.

The hospitality management program at JCCC is a comprehensive study of the food service and public lodging industries. The program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

The JCCC food and beverage management program prepares graduates to enter restaurant, club or food service management as a trainee or assistant manager. Courses in the 65-credit-hour program include supervisory management, hospitality accounting, hospitality law, food management, design techniques and advanced hospitality management. In addition, students learn food preparation skills through courses in basic and intermediate food preparation, menu planning, purchasing, nutrition and beverage control. Individuals considering this field should enjoy a very active environment and a lot of contact with people.

Missouri students should refer to Reverse Cooperative Program Information, see url: http://www.jccc.net/cooperative

Hospitality Management

Associate of Applied Science Degree

First Semester

```
HMGT 121   Hospitality Management Fundamentals...................3
HMGT 123   Basic Food Preparation...............................3
ENGL 121   Composition I*.......................................3
HMGT 271   Seminar in Hospitality Management....................3
MATH 120   Business Math or higher*.............................3
CPCA 105   Introduction to Personal Computing...................1
           or
CPCA 106   Introduction to Personal Computing...................1
           TOTAL CREDIT HOURS..................................16
```

Second Semester

```
HMGT 230   Intermediate Food Preparation*.......................3
HMGT 128   Supervisory Management...............................3
HMGT 273   Hospitality Cost Accounting*.........................3
PSYC 121   Applied Psychology...................................3
           or
PSYC 130   Introduction to Psychology...........................3
HMEC 151   Nutrition and Meal Planning..........................3
           TOTAL CREDIT HOURS..................................15
```

Summer

```
HMGT 275   Seminar in Hospitality Management....................3
```

Third Semester

```
HMGT 277   Sem in Hospitality Management........................3
HMGT 145   Food Production Specialties*.........................3
HMGT 221   Design Techniques*...................................3
HMGT 279   Beverage Control.....................................3
HMGT 130   Hospitality Law......................................3
           TOTAL CREDIT HOURS..................................15
```

Fourth Semester

```
HMGT 126   Food Management*.....................................4
HMGT 228   Advanced Hospitality Management*.....................3
HMGT 250   Introduction to Catering.............................3
SPD  120   Interpersonal Communication..........................3
           or
SPD  125   Personal Communication...............................3
           Humanities Requirement...............................3
           TOTAL CREDIT HOURS..................................16
           TOTAL PROGRAM CREDIT HOURS..........................65
*Prerequisite/Corequisite required
```

Food and Beverage Management Certificate

The food and beverage management certificate program is a one-year program that students can complete in two semesters. Designed to give students basic skills hospitality industry employers are seeking for entry-level positions, the program includes an internship, which allows the student to gain actual experience with local employers.

Hospitality Management

Postsecondary Certificate

```
ENGL 121   Composition I*.......................................3
HMGT 121   Hospitality Management Fundamentals..................3
HMGT 123   Basic Food Preparation...............................3
HMGT 126   Food Management*.....................................4
HMGT 128   Supervisory Management...............................3
HMGT 230   Intermediate Foods*..................................3
HMGT 271   Seminar in Hospitality Management....................3
```

```
HMGT 273  Hospitality Cost Accounting*..........................3
HMGT 275  Seminar in Hospitality Management...................3
MATH 120  Business Math*......................................3
          TOTAL CREDIT HOURS...............................31
*Prerequisite/Corequisite required
```

Hotel & Motel Management, A.A.S.

The hospitality management program at JCCC is a comprehensive study of the food service and public lodging industries. The program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

The JCCC hotel/motel management program prepares the graduate to enter hotel/motel management, usually as a trainee or department supervisor. Courses in supervisory management, hotel accounting, hotel sales and marketing, and advanced hospitality management provide a comprehensive management background. In addition the students learn basic skills through courses in housekeeping, front office management, basic and intermediate food preparation, and beverage control.

Individuals considering this field should enjoy a very active environment and a lot of contact with people.

Associate of Applied Science Degree

First Semester

```
HMGT 121  Hospitality Management Fundamentals.................3
HMGT 123  Basic Food Preparation..............................3
HMEC 151  Nutrition and Meal Planning.........................3
CPCA 105  Introduction to Personal Computing..................1
          or
CPCA 106  Introduction to Personal Computing..................1
ENGL 121  Composition I*......................................3
HMGT 132  Seminar in Housekeeping.............................3
          TOTAL CREDIT HOURS...............................16
```

Second Semester

```
HMGT 271  Seminar in Hospitality Management...................3
HMGT 230  Intermediate Food Preparation*......................3
HMGT 265  Front Office Management.............................3
MATH 120  Business Math or higher*............................3
HMGT 128  Supervisory Management..............................3
          TOTAL CREDIT HOURS...............................15
```

Summer

```
HMGT 275  Seminar in Hospitality Management...................3
SPD  120  Interpersonal Communication.........................3
          or
SPD  125  Personal Communication..............................3
          TOTAL CREDIT HOURS................................6
```

Third Semester

```
HMGT 273  Hospitality Cost Accounting*........................3
HMGT 203  Hotel Sales and Marketing*..........................3
PSYC 121  Applied Psychology..................................3
          or
PSYC 130  Introduction to Psychology..........................3
HMGT 279  Beverage Control....................................3
HMGT 145  Food Production Specialties*........................3
          TOTAL CREDIT HOURS...............................15
```

Fourth Semester

```
HMGT 126   Food Management*....................................4
HMGT 228   Advanced Hospitality Management*....................3
HMGT 130   Hospitality Law....................................3
           Humanities Requirement.............................3
HMGT 268   Hotel Accounting*..................................3
           TOTAL CREDIT HOURS................................16
           TOTAL PROGRAM CREDIT HOURS........................68
*Prerequisite/Corequisite required
```

Information Technology, A.A.S.

Information technology connects people, departments and companies for communication purposes. The technology of local area networks gives employees the ability to share and retrieve information at the group level. Combining local area networks with the Internet and telecommunications resources gives employees unlimited intranet access to information throughout the company and beyond. The associate of applied science degree in information technology provides students with a foundation in designing, installing and implementing computer networking resources. Course requirements include network operations and product-specific requirements for Netware, Windows, Unix and Cisco.

Associate of Applied Science Degree

First Semester

```
IT   200   Networking Technologies............................3
IT   205   Implementing Windows Client........................3
ELEC 185   LAN Cabling and Installation.......................3
ELEC 124   Microcomputer Hardware.............................3
ENGL 121   Composition I*.....................................3
           Health and/or Physical Education Elective..........1
           TOTAL CREDIT HOURS................................16
```

Second Semester

```
IT   210   Netware Administration*............................3
IT   221   Windows Server*....................................3
IT   246   Introduction to Routers*...........................3
CPCA 121   Introduction to Project Management*................1
MATH 171   College Algebra....................................3
ENGL 122   Composition II*....................................3
           or
ENGL 123   Technical Writing*.................................3
           TOTAL CREDIT HOURS................................16
```

Third Semester

```
IT   225   Windows Active Directory Services*.................3
IT   230   Unix Administration and Networking*................3
IT   245   Network Infrastructure*............................3
CIS  134   Programming Fundamentals...........................4
           Humanities Elective................................3
           TOTAL CREDIT HOURS................................16
```

Fourth Semester

```
IT   250   Networking Seminar*................................3
SPD  121   Public Speaking....................................3
           or
SPD  125   Personal Communication.............................3
           Social Science and/or Economics Elective...........3
           Technical Elective.................................7
           TOTAL CREDIT HOURS................................16
           TOTAL PROGRAM CREDIT HOURS........................64
```

Technical Electives

```
IT   227   SQL Server Administration*...........................3
IT   247   Introduction to Wide-area Networks*..................3
IT   271   Information Technology Internship I*.................3
IT   272   Information Technology Internship II*................3
ELEC 120   Introduction to Electronics..........................3
ELEC 150   Introduction to Telecommunications...................3
ELEC 250   Microcomputer Maintenance*...........................3
CS   200   Concepts of Programming Algorithms*..................4
CIS  138   Visual Basic for Windows*............................4
CIS  162   Database Programming.................................4
CIS  204   Unix Operating System and PERL*......................3
CIS  238   Visual Basic Intermediate Topics*....................4
CPCA       Any CPCA Course (except CPCA 105 & CPCA 106)
*Prerequisite/Corequisite required
```

Network Administration: UNIX Certificate

This certificate is a 24-credit-hour program that students can complete in three semesters. The certificate will provide students with competencies necessary to install, troubleshoot and administer Unix systems in an enterprise environment. These skills are sought in the industry today, with Unix operating systems claiming the majority of new implementations in the enterprise environment.

Vocational Certificate

```
IT   200   Networking Technologies..............................3
ELEC 185   LAN Cabling and Installation.........................3
ELEC 124   Microcomputer Hardware...............................3
IT   205   Implementing Windows Client..........................3
IT   230   Unix Administration and Networking*..................3
IT   231   Unix Administration in the Enterprise*...............3
           Technical Electives..................................6
           TOTAL CREDIT HOURS..................................24
```

Technical Electives

```
IT   210   Netware Administration*..............................3
IT   221   Windows Server*......................................3
IT   227   SQL Server Administration*...........................3
IT   245   Network Infrastructure*..............................3
IT   246   Introduction to Routers*.............................3
IT   247   Introduction to Wide-area Networks*..................3
IT   250   Networking Seminar*..................................3
IT   271   Information Technology Internship I*.................3
IT   272   Information Technology Internship II*................3
ELEC 120   Introduction to Electronics..........................3
ELEC 150   Introduction to Telecommunications...................3
ELEC 250   Microcomputer Maintenance*...........................3
CS   200   Concepts of Programming Algorithms*..................4
CIS  134   Programming Fundamentals.............................4
CIS  138   Visual Basic for Windows*............................4
CIS  162   Database Programming.................................4
CIS  204   Unix Operating System and PERL*......................3
CIS  238   Visual Basic Intermediate Topics*....................4
CPCA       Any CPCA Course* (except CPCA 105)
*Prerequisite/Corequisite required
```

Network Administration: Windows Certificate

The networking administration: windows vocational certificate is a 27-credit-hour program that students can complete in three semesters. The program is designed to give students the hands-on skills needed to install, troubleshoot and administer a local area network with Windows operating system. Course work parallels the

requirements for the Microsoft Certified Systems Associate (MCSA) certification exams.

Vocational Certificate

```
IT   200   Networking Technologies...............................3
ELEC 185   LAN Cabling and Installation..........................3
ELEC 124   Microcomputer Hardware................................3
IT   205   Implementing Windows Client...........................3
IT   221   Windows Server*.......................................3
IT   225   Windows Active Directory Services*....................3
IT   245   Network Infrastructure*...............................3
           Technical Electives...................................6
           TOTAL PROGRAM CREDIT HOURS...........................27
```

Technical Electives

```
IT   210   Netware Administration*...............................3
IT   227   SQL Server Administration*............................3
IT   230   Unix Fundamentals*....................................3
IT   246   Introduction to Routers*..............................3
IT   247   Introduction to Wide-area Networks*...................3
IT   250   Networking Seminar*...................................3
IT   271   Information Technology Internship I*..................3
IT   272   Information Technology Internship II*.................3
ELEC 120   Introduction to Electronics...........................3
ELEC 150   Introduction to Telecommunications....................3
ELEC 250   Microcomputer Maintenance*............................3
CS   200   Concepts of Programming Algorithms*...................4
CIS  134   Programming Fundamentals..............................4
CIS  138   Visual Basic for Windows*.............................4
CIS  162   Database Programming..................................4
CIS  204   Unix Operating System and PERL*.......................3
CIS  238   Visual Basic Intermediate Topics*.....................4
CPCA       Any CPCA Course* (except CPCA 105 )
*Prerequisite/Corequisite required
```

Network Connectivity Certificate

The network connectivity vocational certificate is a 15-credit-hour program that students can complete in three semesters. The certificate addresses the crucial area of Internet connection devices and provides necessary skills for students to be successful in the field. This certificate is supported and promoted by Cisco through its Networking Academy initiative. Course work parallels the requirements for Cisco Certified Network Associate (CCNA) certification exam.

Vocational Certificate

```
IT   200   Networking Technologies...............................3
ELEC 124   Microcomputer Hardware................................3
ELEC 185   LAN Cabling and Installation..........................3
IT   246   Introduction to Routers*..............................3
IT   247   Introduction to Wide-area Networks*...................3
           TOTAL CREDIT HOURS...................................15
*Prerequisite/Corequisite required
```

Interactive Media, A.A.S.

The interactive media program provides instruction in the design and development process for different types of interactive media, acquiring and managing assets, the history and theory of communication forms, authoring for interactive media, interface design, and project management. This program is designed to build a common foundation of experience while allowing the student to elect asset and authoring courses as well as general electives that best serve his or her individual

needs. Depending on individual choices and talents, students who complete the interactive media program should be prepared for employment in a variety of positions with the interactive media field.

Associate of Applied Science Degree

First Semester

```
ENGL 121   Composition I*.......................................3
CIM  130   Interactive Media Concepts...........................2
CIM  140   Interactive Media Assets*............................4
CIM  133   Screen Design*.......................................4
           Electives............................................3
           TOTAL CREDIT HOURS..................................16
```

Second Semester

```
ENGL 140   Writing for Interactive Media*.......................3
CIM  152   Interactive Authoring I..............................4
           or
CIM  154   Interactive Authoring I..............................4
           or
CIM  156   Interactive Authoring I..............................4
CIM  200   Interactive Communication Forms*.....................3
           Humanities Elective..................................3
           Asset Elective.......................................4
           TOTAL CREDIT HOURS..................................17
```

Third Semester

```
CIM  230   Interactive Media Development*........................4
CIM  250   Interface Design*....................................4
           Social Science and/or Economic Elective..............3
           Asset Elective.......................................4
           Electives............................................3
           TOTAL CREDIT HOURS..................................18
```

Fourth Semester

```
CIM  270   Interactive Media Project*...........................4
CIM  271   Career Preparation*..................................2
           Science and/or Mathematics...........................3
           Health and/or Physical Education.....................1
           Electives............................................3
           TOTAL CREDIT HOURS..................................13
           TOTAL PROGRAM CREDIT HOURS..........................64
```

Asset Electives

```
CIM  135   Digital Imaging and Video*...........................3
MUS  156   MIDI Music Composition I.............................3
CIM  152   Interactive Authoring I..............................4
           or
CIM  154   Interactive Authoring I..............................4
           Note:Whichever course not already taken as a requirement
           or
CIM  156   Interactive Authoring I..............................4
CIS  162   Database Programming*................................4
BUS  141   Principles of Management.............................3
CIM  235   Advanced Digital Video*..............................3
CIM  252   Interactive Authoring II.............................4
CIM  254   Interactive Authoring II.............................4
*Prerequisite/Corequisite required
```

Multimedia Design Certificate

The multimedia design certificate provides instruction in the design and development process needed to deliver information and media, primarily via CD-ROM and DVD. This includes acquiring and managing assets (text, graphics, sound and video), the history and theory of communication forms, screen design, multimedia authoring, interface design and project management.

Students who complete the multimedia design certificate should be prepared for employment in a variety of positions within the interactive media field. Potential positions in multimedia design include writer/editor/researcher, graphics professional, photography/imaging/video professional, music/audio professional, animator, programmer, information designer, interface designer and/or project manager.

Vocational Certificate

```
CIM  130   Interactive Media Concepts...........................2
CIM  140   Interactive Media Assets*............................4
CIM  133   Screen Design*.......................................4
CIM  152   Interactive Authoring I..............................4
           or
CIM  154   Interactive Authoring I..............................4
CIM  200   Interactive Communication Forms*.....................3
CIM  230   Interactive Media Development*.......................4
CIM  250   Interface Design*....................................4
CIM  270   Interactive Media Project*...........................4
           TOTAL CREDIT HOURS..................................29
*Prerequisite/Corequisite required
```

Web Design Certificate

The Web design certificate provides instruction in the design and development process needed to deliver information and media primarily via the World Wide Web. This instruction includes acquiring and managing assets (text, graphics, sound and video), the history and theory of communication forms, screen design, multimedia authoring, interface design and project management.

Students who complete the Web design certificate should be prepared for employment in a variety of positions within the interactive media field. Potential positions in Web design include writer/editor/researcher, graphics professional, photography/imaging/video professional, music/audio professional, animator, programmer, information designer, interface designer and/or project manager.

Vocational Certificate

```
CIM  130   Interactive Media Concepts...........................2
CIM  140   Interactive Media Assets*............................4
CIM  133   Screen Design*.......................................4
CIM  156   Interactive Authoring I..............................4
CIM  200   Interactive Communication Forms*.....................3
CIM  230   Interactive Media Development*.......................4
CIM  250   Interface Design*....................................4
CIM  270   Interactive Media Project*...........................4
           TOTAL PROGRAM CREDIT HOURS.........................29
*Prerequisite/Corequisite required
```

Interior Design, A.A.S.

Five options in JCCC's interior design program offer students opportunities to choose a career path from a wide variety of exciting fields. Three associate of applied science degree options -- interior design, interior merchandising and interior entrepreneurship -- offer design, retail and business proprietorship skills. Two certificate programs, the interior products sales certificate and the interior design sales and marketing representative certificate, are available for students who need skills for immediate employment or who want a broader knowledge base for their current employment.

JCCC's program offers courses in interior products, creative retail selling, business management, manual and CAD drafting, and product presentation, combined with a basic curriculum of business math, English and art history. Two required work-study internships help develop technical, creative and business skills.

Faculty have worked in the field, which equips them to offer valuable firsthand knowledge of what it takes to succeed.

Missouri students should refer to Reverse Cooperative Program Information, see url:

http://www.jccc.net/cooperative

Interior Design

Associate of Applied Science Degree

First Semester

```
ITMD 121   Interior Design I...................................3
DRAF 261   Graphic Communications I for Interior Design.........3
ITMD 133   Furniture & Ornament/Antiquity to Renaissance.......3
MATH 120   Business Math or higher*............................3
ITMD 125   Interior Textiles...................................3
ENGL 121   Composition I*......................................3
           TOTAL CREDIT HOURS.................................18
```

Second Semester

```
ITMD 122   Interior Design II*.................................3
DRAF 264   CAD.................................................3
ITMD 132   Interior Products...................................3
MKT  134   Creative Retail Selling.............................3
ITMD 231   Furniture & Ornament/Renaiss to 20th Century........3
BUS  150   Business Communications*............................3
           TOTAL CREDIT HOURS.................................18
```

Third Semester

```
ITMD 223   Contract Design*....................................3
ITMD 275   Seminar.............................................2
ITMD 282   Interiors Internship I*.............................1
ART  180   Introduction to Art History.........................3
ECON 130   Basic Economic Issues...............................3
           or
ECON 230   Economics I.........................................3
ITMD 140   Draperies, Treatments and Construction*.............1
ITMD 145   Upholstery Construction*............................1
ITMD 147   Lighting Design and Planning*.......................1
           TOTAL CREDIT HOURS.................................15
```

Fourth Semester

```
ITMD 234   Kitchen and Bath....................................3
ITMD 273   Seminar.............................................2
ITMD 148   History of Asian Furniture and Design...............2
ITMD 150   Asian Rugs and Carpets..............................1
ITMD 284   Interiors Internship II*............................1
DRAF 266   Graphic Communications II for Interior Design*......3
ITMD 239   Capstone............................................2
FASH 135   Image Management....................................1
           or
ITMD 180   Leadership in Design................................1
           Health and/or Physical Education Elective...........1
           TOTAL CREDIT HOURS.................................15
           TOTAL PROGRAM CREDIT HOURS........................67
```

Recommended Electives

```
ITMD 127   Elements of Floral Design...........................1
ITMD 175   Advanced Floral Design*.............................1
ITMD 250   20th-century Designers..............................1
ITMD 295   Field Study.........................................3
ITMD 296   Interior Design.....................................3
*Prerequisite/Corequisite required
```

Interior Design Retail Sales/Manufact Rep Certificate

The interior design retail sales/manufacturers representative certificate is a 32-credit-hour program designed for students employed in or seeking positions in the retail or wholesale interior design market.

Missouri students should refer to Reverse Cooperative information: http://www.jccc.net/pending/catalog/spring-2005/toccareerprograms/careerprograms/VC-INDRSMREP

Interior Design

Vocational Certificate

First Semester

```
ITMD 121   Interior Design I...................................3
ITMD 125   Interior Textiles...................................3
ITMD 132   Interior Products...................................3
MATH 120   Business Math or higher*............................3
MKT  134   Creative Retail Selling.............................3
FASH 135   Image Management....................................1
ITMD 282   Interiors Internship I*.............................1
           TOTAL CREDIT HOURS.................................17
```

Second Semester

```
MKT  121   Retail Management...................................3
FASH 125   Visual Merchandising................................3
SPD  120   Interpersonal Communications........................3
           or
BUS  225   Human Relations.....................................3
ITMD 275   Interiors Seminar...................................2
ITMD 284   Interiors Internship II*............................1
ITMD       Elective............................................3
           TOTAL CREDIT HOURS.................................15
           TOTAL PROGRAM CREDIT HOURS.........................32
```

Recommended Electives

```
ITMD 127   Floral Design.......................................1
ITMD 140   Draperies, Treatments and Construction*.............1
ITMD 145   Upholstery Construction*............................1
ITMD 147   Lighting Design and Planning*.......................1
ITMD 231   Furniture & Ornament/Renaiss to 20th Century........3
ITMD 273   Seminar.............................................2
*Prerequisite/Corequisite required
```

Interior Entrepreneurship, A.A.S.

Five options in JCCC's interior design program offer students opportunities to choose a career path from a wide variety of exciting fields. Three associate of applied science degree options -- interior design, interior merchandising and interior entrepreneurship--offer design, retail and business proprietorship skills. Two certificate programs, the interior products sales certificate and the interior design sales and marketing representative certificate, are available for students who need skills for immediate employment or who want a broader knowledge base for their current employment.

JCCC's program offers courses in interior products, creative retail selling, business management, manual and CAD drafting, and product presentation, combined with a basic curriculum of business math, English and art history. Two required work-study internships help develop technical, creative and business skills.

Faculty have worked in the field, which equips them to offer valuable firsthand knowledge of what it takes to succeed.

Missouri students should refer to Reverse Cooperative information: http://www.jccc.net/home/handbook/student.php/toc_hb1/toc_admissions/coop_programs

Associate of Applied Science Degree

First Semester

```
ITMD 121   Interior Design I...................................3
ITMD 133   Furniture & Ornament/Antiquity to Renaissance........3
DRAF 261   Graphic Communications for Interior Design...........3
MATH 120   Business Math or higher*.............................3
ITMD 125   Interior Textiles...................................3
ENGL 121   Composition I*......................................3
           TOTAL CREDIT HOURS.................................18
```

Second Semester

```
ITMD 122   Interior Design II*.................................3
DRAF 264   CAD.................................................3
ITMD 132   Interior Products...................................3
MKT  134   Creative Retail Selling.............................3
ITMD 231   Furniture & Ornament/Renaiss to 20th Century........3
BUS  150   Business Communications*............................3
           TOTAL CREDIT HOURS.................................18
```

Third Semester

```
           Interiors Elective..................................3
ITMD 275   Seminar.............................................2
ITMD 282   Interiors Internship I*.............................1
ART  180   Introduction to Art History.........................3
ECON 130   Basic Economic Issues...............................3
           or
ECON 230   Economics I.........................................3
           Business/Business Entrepreneurship/
           Marketing Elective..................................3
           TOTAL CREDIT HOURS.................................15
```

Fourth Semester

```
ITMD 234   Kitchen and Bath....................................3
           or
ITMD 223   Contract Design*....................................3
ITMD 273   Seminar.............................................2
ITMD 284   Interiors Internship II*............................1
           Business/Business Entrepreneurship/
           Marketing Electives.................................6
ITMD 239   Capstone............................................2
FASH 135   Image Management....................................1
           or
ITMD 180   Leadership in Design................................1
           Physical Education Elective.........................1
           TOTAL CREDIT HOURS.................................16
           TOTAL PROGRAM CREDIT HOURS.........................67
```

Recommended Electives

```
ITMD 127   Elements of Floral Design...........................1
```

```
ITMD 295    Field Study.........................................3
ITMD 296    Interior Design.....................................3
ITMD 140    Draperies, Treatments and Construction*.............1
ITMD 145    Upholstery Construction*............................1
ITMD 147    Lighting Design and Planning*.......................1
ITMD 148    History of Asian Furniture and Design...............2
ITMD 150    Asian Rugs and Carpets..............................1
ITMD 175    Advanced Floral Design*.............................1
ITMD 250    20th-Century Designers..............................1
ACCT 111    Small Business Accounting...........................3
ACCT 121    Accounting I........................................3
BUS  141    Principles of Management............................3
BUS  145    Small Business Management...........................3
BUS  230    Marketing...........................................3
BUSE 131    Financial Management for Small Business*............2
BUSE 142    FastTrac Business Plan..............................3
BUSE 160    Legal Issues for Small Business.....................2
MKT  121    Retail Management...................................3
MKT  221    Sales Management*...................................3
*Prerequisite/Corequisite required
```

Interior Merchandising, A.A.S.

Five options in JCCC's interior design program offer students opportunities to choose a career path from a wide variety of exciting fields. Three associate of applied science degree options -- interior design, interior merchandising and interior entrepreneurship -- offer design, retail and business proprietorship skills. Two certificate programs, the interior products sales certificate and the interior design sales and marketing representative certificate, are available for students who need skills for immediate employment or who want a broader knowledge base for their current employment.

JCCC's program offers courses in interior products, creative retail selling, business management, manual and CAD drafting, and product presentation, combined with a basic curriculum of business math, English and art history. Two required work-study internships help develop technical, creative and business skills.

Faculty have worked in the field, which equips them to offer valuable firsthand knowledge of what it takes to succeed.

Missouri students should refer to Reverse Cooperative Program Information, go to: http://www.jccc.net/cooperative

Interior Design

Associate of Applied Science Degree

First Semester

```
ITMD 121    Interior Design I...................................3
ITMD 133    Furniture & Ornament/Antiquity to Renaissance.......3
DRAF 261    Graphic Communications for Interior Design..........3
MATH 120    Business Math or higher*............................3
ITMD 125    Interior Textiles...................................3
ENGL 121    Composition I*......................................3
            TOTAL CREDIT HOURS.................................18
```

Second Semester

```
ITMD 122    Interior Design II*.................................3
DRAF 264    CAD.................................................3
ITMD 132    Interior Products...................................3
MKT  134    Creative Retail Selling.............................3
ITMD 231    Furniture & Ornament/Renaiss to 20th Century........3
BUS  150    Business Communications*............................3
            TOTAL CREDIT HOURS.................................18
```

Third Semester

```
        Interiors Elective..................................3
ITMD 275  Seminar............................................2
ITMD 282  Interiors Internship I*............................1
ART  180  Introduction to Art History........................3
ECON 130  Basic Economic Issues..............................3
        or
ECON 230  Economics I........................................3
        Business/Marketing Elective.........................3
        TOTAL CREDIT HOURS.................................15
```

Fourth Semester

```
        Interiors Elective..................................3
ITMD 273  Seminar............................................2
ITMD 284  Interiors Internship II*...........................1
        Business/Marketing Elective.........................3
FASH 125  Visual Merchandising...............................3
ITMD 239  Capstone...........................................2
FASH 135  Image Management...................................1
        or
ITMD 180  Leadership in Design...............................1
        Physical Education Elective........................1
        TOTAL CREDIT HOURS.................................16
        TOTAL PROGRAM CREDIT HOURS.........................67
```

Recommended Electives

```
ITMD 127  Elements of Floral Design..........................1
ITMD 295  Field Study........................................3
ITMD 296  Interior Design....................................3
ITMD 140  Draperies, Treatments and Construction*.............1
ITMD 145  Upholstery Construction*...........................1
ITMD 147  Lighting Design and Planning*......................1
ITMD 148  History of Asian Furniture and Design...............2
ITMD 150  Asian Rugs and Carpets.............................1
ITMD 175  Advanced Floral Design*............................1
ITMD 223  Contract Design*...................................3
        or
ITMD 234  Kitchen and Bath...................................3
ITMD 250  20th-Century Designers.............................1
BUS  141  Principles of Management...........................3
BUS  145  Small Business Management..........................3
BUS  230  Marketing..........................................3
MKT  121  Retail Management..................................3
MKT  221  Sales Management*..................................3
*Prerequisite/Corequisite required
```

Interior Products Sales Representative Certificate

The interior products sales representative vocational certificate is a 17-credit-hour program designed for students employed in or seeking positions in the interior design retail market. The required courses are already included in the approved curriculum of the interior design program.

Missouri students should refer to Reverse Cooperative Program Information, go to: http://www.jccc.net/cooperative

Interior Design

Vocational Certificate

```
ITMD 121  Interior Design I..................................3
ITMD 125  Interior Textiles..................................3
ITMD 132  Interior Products..................................3
MATH 120  Business Math or higher*...........................3
MKT  134  Creative Retail Selling............................3
```

```
FASH 135   Image Management.....................................1
ITMD 282   Interiors Internship I*..............................1
           TOTAL PROGRAM CREDIT HOURS..........................17
*Prerequisite/Corequisite required
```

Interpreter Training, A.A.S.

The employment outlook for sign language interpreters is promising. As the population grows, so will the need for interpreters. Another factor in the predicted increase in employment opportunities is the effort many social service agencies, school systems, medical services and industries are making to provide interpreter services.

JCCC's program concentrates on preparing students to provide entry-level interpretation and transliteration for the deaf, hard of hearing and non-deaf communities. During the last semester of the program, students participate in a practicum class in which they interpret under supervision in a variety of situations. Upon successful completion of this program, and a required evaluation, students will earn an associate of applied science degree.

This is a selective admission program with limited enrollment. The deadline for fall semester applications is in the spring. If you are interested, contact the Admissions office for an application packet, which includes prerequisites, deadlines, admission requirements and academic criteria.

Associate of Applied Science Degree

First Semester

```
INTR 125   American Sign Language I*............................5
INTR 130   Orientation to Interpreting*.........................3
INTR 145   Deaf Culture*........................................3
           Health and/or Physical Educ Elect...................1
ENGL 122   Composition II*......................................3
           TOTAL CREDIT HOURS.................................15
```

Second Semester

```
INTR 132   American Sign Language II*...........................5
INTR 135   American Sign Language Theory*.......................3
           Science and/or Math Elective........................3
INTR 142   Fingerspelling I*....................................3
           Social Science and/or Economic Elective.............3
           TOTAL CREDIT HOURS.................................17
```

Third Semester

```
INTR 140   American Sign Language III*..........................5
INTR 250   Interpreting I*......................................6
INTR 225   Phys & Psycholog Aspects of Interpreting*...........2
INTR 242   Fingerspelling II*...................................2
INTR 181   Interpreter Practicum I*.............................1
           TOTAL CREDIT HOURS.................................16
```

Fourth Semester

```
INTR 230   American Sign Language IV*...........................4
INTR 255   Interpreting II*.....................................6
INTR 281   Interpreter Practicum II*............................3
           Humanities Elective.................................3
           TOTAL CREDIT HOURS.................................16
           TOTAL PROGRAM CREDIT HOURS..........................64
*Prerequisite/Corequisite required
```

Sign Language Communication Certificate

The sign language communication postsecondary certificate has been developed based on the need for professional people in the community to be skilled in sign language. The certification program is not available to students who have been admitted to the interpreter training program. MATH 115 or higher is required for the certificate program; students planning to apply for admission to the interpreter training program after receiving their certificates are advised that MATH 116 or higher and/or a science elective are required for the A.A.S. degree. Students should contact a counselor or the career program facilitator for advice concerning graduation requirements.

Interpreter Training

Postsecondary Certificate

First Semester

```
INTR 120   Elementary American Sign Language I..................3
INTR 145   Deaf Culture*.......................................3
           Health/Physical Education Elective..................1
ENGL 121   Composition I*......................................3
           TOTAL CREDIT HOURS.................................10
```

Second Semester

```
INTR 121   Elementary American Sign Language II*...............3
INTR 130   Survey of the Interpreting Profession*..............3
ENGL 122   Composition II*.....................................3
           TOTAL CREDIT HOURS..................................9
```

Third Semester

```
INTR 122   Intermediate American Sign Language I*..............3
INTR 142   Fingerspelling I*...................................3
           Math Elective.......................................3
           TOTAL CREDIT HOURS..................................9
```

Fourth Semester

```
INTR 123   Intermediate American Sign Language II*.............3
INTR 135   Theory of American Sign Language*...................3
           Social Science or Economics Elective................3
           TOTAL CREDIT HOURS..................................9
           TOTAL PROGRAM CREDIT HOURS.........................37
```

Math Elective

```
MATH 115   Introduction to Algebra*............................3
MATH 116   Intermediate Algebra*...............................3
MATH 118   Geometry*...........................................3
MATH 120   Business Math*......................................3
MATH 122   Mathematics in our Culture*.........................3
MATH 133   Technical Mathematics I*............................4
MATH 134   Technical Mathematics II*...........................5
MATH 165   Finite Math*........................................3
MATH 171   College Algebra*....................................3
MATH 172   Trigonometry*.......................................3
MATH 173   Precalculus*........................................3
MATH 175   Discrete Math*......................................3
MATH 181   Statistics*.........................................3
MATH 225   Math as a Decision Making Tool*.....................3
MATH 231   Business & Applied Calculus I*......................3
MATH 232   Business & Applied Calculus II*.....................3
MATH 241   Calculus I*.........................................5
MATH 242   Calculus II*........................................5
MATH 243   Calculus III*.......................................5
MATH 244   Differential Equations*.............................3
*Prerequisite/Corequisite required
```

Paralegal, A.A.

The expanding role of the paralegal in the delivery of legal services has created increased opportunities with private law firms, corporate legal departments, insurance companies, real estate and title firms, banks, and government agencies. If you are interested in entering this career field, you should be aware that although the number of jobs for trained paralegals is rising, competition for these positions is increasing.

The paralegal program at JCCC

- has a challenging curriculum
- requires that you possess excellent communication skills, analytical ability and a high level of motivation
- is approved by the American Bar Association
- is a selective admission program based on various academic and testing criteria

Paralegal

Associate of Arts Degree

The following courses must be completed with a minimum GPA of 2.0 prior to application for admission to the paralegal program. Upon successful completion of the requirements for the associate of arts degree, you will be eligible to receive an A.A. degree and a paralegal certificate.

```
ENGL 121  Composition I*.......................................3
LAW  121  Introduction to Law.................................3
LAW  123  Paralegal Studies...................................1
```

First Semester

```
          Humanities Elective.................................3
SPD  120  Interpersonal Communications........................3
          or
SPD  121  Public Speaking.....................................3
          or
SPD  125  Personal Communications.............................3
          Science and Mathematics Electives...................3
          TOTAL CREDIT HOURS................................16
```

Second Semester

Following admission to the paralegal program:

```
ENGL 122  Composition II*.....................................3
LAW  131  Legal Research*.....................................3
LAW  132  Civil Litigation*...................................3
CPCA 128  Personal Computer Applications......................3
          or
CIS  124  Intro to Computing Concepts and Applications.........3
          or the following three:
CPCA 108  Word Processing on Microcomputers I*................1
          and
CPCA 110  Spreadsheets on Microcomputers I*...................1
          and
CPCA 114  Databases on Microcomputers I*......................1
          Social Science and/or Economics Electives...........3
          TOTAL CREDIT HOURS................................15
```

Third Semester

```
LAW  205  Legal Writing*......................................3
```

```
            Paralegal Electives....................................6
            Health and/or Physical Education Elective............1
            Humanities Elective..................................3
            Science and Mathematics Elective.....................3
            TOTAL CREDIT HOURS..................................16
```

Fourth Semester

```
LAW  271  Legal Ethics, Interviewing and Investigation*........3
            Paralegal Electives..................................8
            Science and Mathematics Electives....................3
            Social Science and/or Economics Electives............3
            TOTAL CREDIT HOURS..................................17
            TOTAL PROGRAM CREDIT HOURS.........................64
```

Paralegal Electives

```
LAW  140  Alternative Dispute Resolution*......................3
LAW  142  Torts*...............................................3
LAW  148  Criminal Litigation*.................................3
LAW  152  Real Estate Law*.....................................3
LAW  162  Family Law*..........................................3
LAW  171  Law Office Management*...............................3
LAW  173  Judicial Academy*....................................1
LAW  212  Business Organizations*..............................3
LAW  220  Computer-assisted Legal Research*....................2
LAW  223  Computer Applications in the Law Office*.............3
LAW  241  Will, Trusts and Probate Administration*.............3
LAW  245  Elder Law*...........................................3
LAW  266  Employment Law*......................................3
LAW  268  Bankruptcy*..........................................2
LAW  270  Administrative Law*..................................3
LAW  275  Paralegal Internship I*..............................1
LAW  276  Paralegal Internship II*.............................1
*Prerequisite/Corequisite required
```

Legal Nurse Consultant Certificate

A legal nurse consultant (LNC) is a registered nurse who possesses both medical and legal knowledge. The LNC assists members of the legal profession with medical malpractice, personal injury and workers' compensation cases. The LNC functions in two roles: a consulting expert and a testifying expert.

Prior to admission, you must have earned a registered nurse degree and have satisfied JCCC and American Bar Association general education requirements. Students will have fulfilled these general education requirements if they have 18 hours of general education. LNC applicants must also possess a current state license to practice nursing and have completed 2,500 hours of clinical work as a registered nurse.

Vocational Certificate

```
LAW  225  Legal Nurse Consultant Profession*...................1
LAW  121  Introduction to Law..................................3
            or
BUS  122  Introduction to Law..................................3
LAW  131  Legal Research*......................................3
LAW  250  Medicolegal Research and Writing*....................3
LAW  260  Personal Injury Law*.................................3
LAW  270  Administrative Law*..................................3
LAW  271  Legal Ethics, Interviewing and Investigation*........3
Note: Students must take one of the following courses:

LAW  140  Alternative Dispute Resolution*......................3
LAW  142  Torts*...............................................3
LAW  148  Criminal Law*........................................3
LAW  152  Real Estate Law*.....................................3
```

```
LAW  162  Family Law*..........................................3
LAW  171  Law Office Management*...............................3
LAW  212  Business Organization*...............................3
LAW  241  Wills, Trust and Probate*............................3
LAW  245  Elder Law*...........................................3
LAW  266  Employment Law*......................................3
LAW  268  Bankruptcy*..........................................2
          TOTAL PROGRAM CREDIT HOURS..........................22
*Prerequisite/Corequisite required
```

Paralegal Certificate

You must have completed a two-year degree or a four-year degree and have satisfied JCCC and American Bar Association general education requirements prior to admission. Students will have fulfilled these general education requirements if they have 18 hours of general education credit, including Composition I and Introduction to Algebra or a higher math course.

The following courses must be completed with a minimum GPA of 2.0 prior to application for admission to the paralegal program.

Paralegal

Postsecondary Certificate

```
LAW  121  Introduction to Law..................................3
LAW  123  Paralegal Studies....................................1
```

First Semester

```
CPCA 128  Personal Computer Applications.......................3
          or
CIS  124  Intro to Computing Concepts and Applications.........3
          or the following three:
CPCA 108  Word Processing on Microcomputers I*.................1
          and
CPCA 110  Spreadsheets on Microcomputers I*....................1
          and
CPCA 114  Databases on Microcomputers I*.......................1
          TOTAL CREDIT HOURS...................................7
```

Second Semester

```
Following admission to the paralegal program
LAW  131  Legal Research*......................................3
LAW  132  Civil Litigation*....................................3
          Paralegal Electives..................................7
          TOTAL CREDIT HOURS..................................13
```

Third Semester

```
LAW  205  Legal Writing*.......................................3
LAW  271  Legal Ethics, Interviewing and Investigation*........3
          Paralegal Electives..................................7
          TOTAL CREDIT HOURS..................................13
          TOTAL PROGRAM CREDIT HOURS..........................33
```

Paralegal Electives

```
LAW  140  Alternative Dispute Resolution*......................3
LAW  142  Torts*...............................................3
LAW  148  Criminal Litigation*.................................3
LAW  152  Real Estate Law*.....................................3
LAW  162  Family Law*..........................................3
LAW  171  Law Office Management*...............................3
LAW  173  Judicial Academy*....................................1
LAW  212  Business Organizations*..............................3
```

```
LAW  220  Computer-assisted Legal Research*.....................2
LAW  223  Computer Applications in the Law Office*.............3
LAW  241  Will, Trusts and Probate Administration*.............3
LAW  245  Elder Law*..........................................3
LAW  266  Employment Law*.....................................3
LAW  268  Bankruptcy*.........................................2
LAW  270  Administrative Law*.................................3
LAW  275  Paralegal Internship I*.............................1
LAW  276  Paralegal Internship II*............................1
          TOTAL CREDIT HOURS.................................15
*Prerequisite/Corequisite required
```

Marketing and Management, A.A.S.

Merchandising, marketing and management-related fields have recently experienced tremendous growth and expansion in Johnson County. Surveys indicate that few other areas offer greater opportunity to qualified people. In fact, employment of people in this field is expected to increase faster than the average for all occupations nationwide.

JCCC's Marketing and Management program prepares you for jobs in this field. Graduates of JCCC's program are ready for entry-level management or sales positions in retail, wholesale or manufacturing and marketing services.

Through marketing and management courses and in the case studies capstone course, you learn the latest in business trends. You also learn the importance of good customer service and the skills needed to deliver that service. The curriculum reflects current industry standards, including an emphasis on personal computer use, interpersonal communications and human relations.

Because all marketing and management students work at least 15 hours a week each semester in a store or business, you can apply what you learn in the classroom to your job. You also can take your work experiences back to the classroom for analysis and a greater understanding of the problems businesses face. You acquire basic merchandising information and learn how to work with people. By integrating coursework and on-the-job experience, you are given the knowledge, skills and attitudes necessary to reach your career objectives.

Marketing and Management

Associate of Applied Science Degree

First Semester

```
BUS  121  Introduction to Business............................3
BUS  225  Human Relations.....................................3
MKT  133  Salesmanship........................................3
          or
MKT  134  Creative Retail Selling.............................3
ENGL 121  Composition I*......................................3
MATH 120  Business Math or higher*............................3
MKT  284  Marketing and Management Internship I...............1
          TOTAL CREDIT HOURS.................................16
```

Second Semester

```
BUS  150  Business Communications*............................3
BUS  230  Marketing...........................................3
MKT  121  Retail Management...................................3
ACCT 121  Accounting I........................................3
          or
ACCT 111  Small Business Accounting...........................3
CIS  124  Intro to Computing Concepts and Applications.........3
          and
          CPCA/CDTP elective..................................1

          or
```

```
        CPCA/CDTP electives................................4

Note:CPCA 105 and 106 do not meet requirements.


        Health and/or Physical Education Elective............1
MKT  286  Marketing and Management Internship II...............1
        TOTAL CREDIT HOURS................................18
```

Third Semester

```
BUS  141  Principles of Management............................3
MKT  202  Consumer Behavior*..................................3
HUM  122  Introduction to Humanities..........................3
PHIL 138  Business Ethics.....................................1
ECON 130  Basic Economic Issues...............................3
        or
ECON 230  Economics I**.......................................3
        or
ECON 132  Survey of Economics.................................3
MKT  221  Sales Management*...................................3
MKT  288  Marketing and Management Internship III..............1
        TOTAL CREDIT HOURS................................17
```

Fourth Semester

```
MKT  234  Services Marketing*.................................3
HIST 141  U...................................................3
BUS  261  Business Law I......................................3
AAC  150  Job Search Skills...................................1
MKT  289  Marketing and Management Internship IV..............1
MKT  290  Capstone............................................3
        TOTAL CREDIT HOURS................................14
        TOTAL PROGRAM
        CREDIT HOURS......................................65
*Prerequisite/Corequisite required
**Recommended for students who intend to transfer
        to a baccalaureate degree program
```

Retail Sales Representative Certificate

This retail sales representative certificate is designed for students seeking positions in the growing retail industry in Johnson County.

Marketing and Management

Vocational Certificate

```
BUS  230  Marketing...........................................3
FASH 135  Image Management....................................1
MKT  121  Retail Management...................................3
MKT  134  Creative Retail Selling.............................3
MKT  202  Consumer Behavior*..................................3
MKT  234  Services Marketing*.................................3
MKT  284  Marketing and Management Internship I...............1
        TOTAL PROGRAM CREDIT HOURS........................17
*Prerequisite/Corequisite required
All 17 credit hours in the retail sales representative
certificate program apply to the 35-credit-hour sales and
customer service certificate.
```

Sales and Customer Relations Certificate

JCCC's sales and customer service program is designed for people employed in

sales who wish to refine their skills or those who are contemplating a career in sales. The program focuses on the steps involved in the selling process and the delivery of effective customer service. Students who complete the program may find careers in sales (retail, wholesale or manufacturing) or in the customer service departments of stores, businesses and manufacturers.

Thirty-three of the 35 credit hours required for the sales and customer relations certificate apply toward JCCC's 65-credit-hour marketing and management associate of applied science degree.

Overall, employment in the selling field is expected to increase significantly through the year 2005.

Marketing and Management

Vocational Certificate

First Semester

```
MKT  134   Creative Retail Selling..............................3
           or
MKT  133   Salesmanship........................................3
BUS  230   Marketing...........................................3
MATH 120   Business Math or higher*............................3
BUS  150   Business Communications*............................3
MKT  121   Retail Management...................................3
MKT  284   Marketing and Management Internship I...............1
           TOTAL CREDIT HOURS.................................16
```

Second Semester

```
BUS  225   Human Relations.....................................3
MKT  202   Consumer Behavior*..................................3
MKT  221   Sales Management*...................................3
CIS  124   Intro to Computing Concepts and Applications........3
           and
           CPCA/CDTP elective..................................1

           or

           CPCA/CDTP electives.................................4

Note: CPCA 105 and 106 do not meet requirements.

MKT  234   Services Marketing*.................................3
AAC  150   Job Search Skills...................................1
FASH 135   Image Management....................................1
MKT  286   Marketing and Management Internship II..............1
           TOTAL CREDIT HOURS.................................19
           TOTAL PROGRAM CREDIT HOURS........................35
*Prerequisite/Corequisite required
```

(Other Recommended Courses)

```
BUS  120   Management Attitudes and Motivation.................3
BUS  121   Introduction to Business............................3
BUS  235   Introduction to International Business..............3
FASH 121   Fashion Fundamentals................................3
FASH 125   Visual Merchandising................................3
FASH 150   Textiles............................................3
FASH 242   Consumer Product Evaluation.........................3
ITMD 121   Interior Design I...................................3
ITMD 125   Interior Textiles...................................3
ITMD 132   Interior Products...................................3
```

Teleservice Representative Certificate

The teleservice representative certificate program at JCCC was developed in conjunction with the Kansas City Area Call Center Managers Users Group with the objective of providing students with business and practical skills that will help make them successful in the teleservice industry. Twenty-four of the 33 credit hours required for the teleservice representative certificate apply toward JCCC's 65-credit-hour marketing and management associate of applied science degree.

Marketing and Management

Vocational Certificate

First Semester

```
BUS  121  Introduction to Business.............................3
BUS  150  Business Communications*.............................3
BUS  230  Marketing............................................3
MKT  140  Teleservice Communication Skills.....................3
MATH 120  Business Math*.......................................3
MKT  284  Marketing and Management Internship I...............1
          TOTAL CREDIT HOURS.................................16
```

Second Semester

```
BUS  123  Personal Finance.....................................3
MKT  202  Consumer Behavior*...................................3
MKT  234  Services Marketing*..................................3
BOT  130  Office Systems Concepts..............................3
CIS  124  Intro to Computing Concepts and Applications^........3
          and
          CPCA/CDTP elective...................................1

          or

          CPCA/CDTP electives..................................4

Note: CPCA 106 and 106 do not meet requirements.

MKT  286  Marketing and Management Internship II..............1
          TOTAL CREDIT HOURS.................................17
          TOTAL PROGRAM CREDIT HOURS.........................33
```

```
*Prerequisite/Corequisite required
        ^Recommended for students who intend to transfer to a
baccalaureate degree program
```

Teletrac Certificate

This certificate program meets the core competencies outlined by the Call Center User's Group, a group of area business leaders in the teleservice industry. This program includes one internship during which students will learn through hands-on industry experience. All 14 credit hours in this certificate can be applied toward the 33-credit-hour teleservice representative certificate program.

Marketing and Management

Vocational Certificate

```
BUS  121  Introduction to Business.............................3
MKT  140  Teleservice Communication Skills.....................3
MKT  202  Consumer Behavior*...................................3
MATH 120  Business Math*.......................................3
BOT  101  Computerized Keyboarding**...........................1
MKT  284  Marketing and Management Internship I...............1
          TOTAL PROGRAM CREDIT HOURS.........................14
*Prerequisite/Corequisite required
```

**Assessment test may be used to satisfy course requirement

Metal Fabrication Technology, A.A.S.

The welding technology/metal fabrication program provides students the opportunity to learn practical knowledge and skill competencies associated with welding, metal fabrication and related processes. The JCCC welding technology/metal fabrication curriculum is designed to prepare students for various phases and levels of occupational skills. The program also offers currently employed professional welders the opportunity to upgrade their skills by taking advanced welding courses during day and evening schedules. Opportunities for those who wish to become welders, cutters and machine operators should be good through the year 2005, as the number of qualified (certified) welders graduating from technical schools and community colleges is expected to be in balance with the number of job openings. Welding technology/metal fabrication offers the service of two Certified Welding Inspectors (CWIs) for the inspection and testing of welds. JCCC welding technology professors can customize welding programs to provide course materials utilizing processes, materials or welding positions that meet particular company needs.

JCCC provides well-equipped laboratories that enable students to receive instruction in blueprint and symbol reading for welders. The welding technology program consists of individual welding processes that allow students time to master each. After students master the Introduction to Welding course, other welding processes can be selected to meet individual needs. They are oxyacetylene welding (OAW) and cutting (OFC), plasma arc cutting (PAC), shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux cored arc welding (FCAW), gas tungsten arc welding (GTAW), basic machining, metallurgy and allied processes. The program is accredited as an American Welding Society Participating Organization in the Training and Testing of Entry Level Welders. Eligible students may elect to test under AWS QC10 certification guidelines and, if successful, be listed in the AWS National Registry of Entry Level Welders.

Associate of Applied Science Degree

First Semester

```
INDT 125   Industrial Safety....................................3
MFAB 121   Introduction to Welding.............................4
ENGL 121   Composition I*......................................3
MATH 133   Technical Mathematics I*............................4
CPCA 105   Introduction to Personal Computers..................1
MFAB 180   Blueprint and Symbols Reading for Welders...........2
           TOTAL CREDIT HOURS.................................17
```

Second Semester

```
MFAB 125   Advanced Gas and Arc Welding*......................4
           or
MFAB 140   Maintenance Repair Welding*........................3
ENGL 123   Technical Writing I*...............................3
PHYS 125   Technical Physics I*...............................4
MFAB 152   Manufacturing Materials and Processes..............3
HPER 200   First Aid/CPR......................................2
INDT 155   Workplace Skills...................................1
           TOTAL CREDIT HOURS.................................16
```

Third Semester

```
MFAB 130   Gas Metal Arc Welding I............................4
MFAB 170   Basic Machine Tool Processes.......................4
BUS  140   Principles of Supervision..........................3
           Social Science Elective............................3
           Related Elective...................................3
           TOTAL CREDIT HOURS.................................17
```

Fourth Semester

```
MFAB 160   Gas Tungsten Arc Welding*...........................4
MFAB 240   Metallurgy..........................................2
           Humanities Elective.................................3
           Related Electives...................................6
           TOTAL CREDIT HOURS.................................15
           TOTAL PROGRAM CREDIT HOURS.........................65
```

Related Electives

```
AUTO 121   Small Engine Service................................3
BUS  120   Management Attitudes and Motivation.................3
BUS  145   Small Business Management...........................3
BUSE 142   FastTrac Business Plan..............................4
CET  105   Construction Methods................................3
CIS  124   Intro to Computing Concepts and Applications........3
ELEC 131   Introduction to Sensors and Actuators...............3
ELEC 133   Programmable Controllers............................3
ENGL 210   Technical Writing II*...............................3
HVAC 167   Sheet Metal Layout and Fabrication..................3
INDT 140   Quality Improvement Using SPC.......................2
MATH 134   Technical Mathematics II*...........................5
MFAB 127   Welding Processes...................................2
MFAB 230   Gas Metal Arc Welding II*...........................4
MFAB 271   Metal Fabrication Internship*.......................3
RRT  165   Railroad Safety, Quality and Environment............3
*Prerequisite/Corequisite required
```

Metal Fabrication Technology Certificate

The welding/metal fabrication vocational certificate program teaches welding skills in the areas of shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux cored arc welding (FCAW), oxyacetylene welding (OAW) and cutting (OFC), plasma arc cutting (PAC), shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding (GTAW). The students also will receive training in safety and basic blueprint reading. This should give the student the skills needed to successfully enter the field of welding.

Metal Fabrication (Welding) Technology

Vocational Certificate

Required Courses

```
INDT 125   Industrial Safety...................................3
MFAB 180   Blueprint and Symbols Reading for Welders...........2
MFAB 121   Introduction to Welding.............................4
MFAB 125   Advanced Gas and Arc Welding*.......................4
           or
MFAB 140   Maintenance Repair Welding*.........................3
MFAB 130   Gas Metal Arc Welding I.............................4
MFAB 160   Gas Tungsten Arc Welding*...........................4
MFAB 230   Gas Metal Arc Welding II*...........................4
INDT 155   Workplace Skills....................................1
           TOTAL PROGRAM CREDIT HOURS.........................25
*Prerequisite/Corequisite required
```

Nursing - Registered Nurse, A.A.S.

Nursing is a rewarding and challenging career with an optimistic employment future. JCCC's registered nurse program is fully accredited by the National League for Nursing Accrediting Commission and Kansas State Board of Nursing. It is designed with the assistance of a community advisory committee composed of men and women who work in the nursing and health care fields and are aware

of the requirements for a successful nursing career. Our faculty are well qualified and experienced in the practice and teaching of nursing.

Students receive clinical practice in a variety of settings, including hospitals, schools and clinics. Experiences are offered in maternal child nursing, pediatric nursing, operating room nursing, medical-surgical nursing, mental health nursing and gerontology.

A registered nurse with an associate's degree is a skilled health-care provider who administers nursing care directly to patients and their families in a variety of settings. The job outlook is very positive. Employment of registered nurses is expected to grow faster than the average for all occupations through 2005.

Associate of Applied Science Degree

```
Note: CNA certification will be required as a
prerequisite in fall 2003.
Prerequisites: Prior to enrolling in NURS 121

CHEM 122  Principles of Chemistry................................5
MATH 116  Intermediate Algebra or Higher*......................3
          TOTAL CREDIT HOURS...................................8
```

First Semester

```
BIOL 144  Human Anatomy and Physiology..........................5
PSYC 130  Introduction to Psychology............................3
NURS 124  Foundations of Nursing*...............................9
          TOTAL CREDIT HOURS...................................17
```

Second Semester

```
          Communications Elective...............................3
PSYC 218  Human Development*....................................3
NURS 122  Nursing Across the Life Span - Part I*................9
          TOTAL CREDIT HOURS...................................15
```

Summer

```
ENGL 121  Composition I*........................................3
          TOTAL CREDIT HOURS....................................3
```

Third Semester

```
NURS 221  Nursing Across the Life Span - Part II*..............9
SOC  122  Sociology.............................................3
          or
SOC  125  Social Problems.......................................3
BIOL 230  Microbiology*.........................................3
          TOTAL CREDIT HOURS...................................15
```

Fourth Semester

```
NURS 222  Managing Client Care*.................................9
          Humanities Elective...................................3
          Health and/or Physical Education Elective............1
          TOTAL CREDIT HOURS...................................13
          TOTAL PROGRAM CREDIT HOURS...........................71
*Prerequisite/Corequisite required
```

PN to RN Transition, A.A.S

The LPN to RN bridge program provides those licensed practical nurses wanting to become registered nurses the opportunity to do so. Admission to the program is based on academic criteria.

All Licensed Practical Nurses making application must have completed required general education courses before being accepted.

Following successful completion of the summer transition courses, students are admitted to the third semester of the program. At least 10 openings are available each year. Successful completion of the third and fourth semesters of the program allows the graduate to apply to take the national licensing examination for RNs. The application deadline is Jan. 15.

Associate of Applied Science Degree

(LPN to RN Transition)

```
Note:  Students must successfully complete NURS 123 and
NURS 221 before advanced standing credits for NURS 121
and NURS 122 will be granted
Prerequisite: Prior to enrolling in NURS 221


BIOL 144  Human Anatomy and Physiology.........................5
CHEM 122  Principles of Chemistry...............................5
ENGL 121  Composition I*........................................3
PSYC 130  Introduction to Psychology...........................3
PSYC 218  Human Development*....................................3
          Communications Elective..............................3
MATH 116  Intermediate Algebra or Higher*......................3
          TOTAL CREDIT HOURS..................................25
```

Summer

```
NURS 123  LPN-RN Transition course*............................6
          TOTAL CREDIT HOURS...................................6
```

Third Semester

```
BIOL 230  Microbiology*........................................3
NURS 221  Nursing Across the Life Span - Part II*..............9
SOC  122  Introduction to Sociology............................3
          or
SOC  125  Social Problems......................................3
          TOTAL CREDIT HOURS..................................15
```

Fourth Semester

```
NURS 222  Managing Client Care*................................9
          Humanities Elective..................................3
          Health and/or Physical Education Elective............1
          TOTAL CREDIT HOURS..................................13
          TOTAL PROGRAM CREDIT HOURS..........................77
*Prerequisite/Corequisite required
Note:  Total Program Hours include 18 hours APL
for NURS 121/122.
```

Practical Nursing F/T Cert

The health care industry needs informed, skilled and dependable workers to complete the care team. The licensed practical nurse assists registered nurses and physicians in caring for physically or mentally ill clients. In the long-term care setting and home health, the LPN may supervise other nursing care personnel.

Practical nursing offers employment in many health care settings. Long-term care, physicians' offices, home care, hospitals and clinics provide opportunity for the practical nurse to administer care to a variety of clients. Job outlook for the Kansas City area is good, with an average starting salary of $20,800-$31,200.

Upon successful completion of the program, graduates are eligible to take the Practical Nursing Licensing exam. After completing the practical nursing program, you may continue your education in nursing to become a registered nurse.

The program, which can be completed in 10 months, provides 1,100 hours of instruction. This includes classroom and clinical laboratory experiences in many areas of nursing.   The application deadline is April 1 for the following fall semester. Admission to this program requires successful completion of several prerequisites.

Nursing

Area Vocational School Certificate

```
Note: Prerequisite courses are
CNA certification, BIOL 144,
PSYC 130, CPCA 105, MATH 111
```

Fall

```
AVPN 115  Nursing I*.........................................0
```

Spring

```
AVPN 117  Nursing II*........................................0
Note:  TOTAL PROGRAM CONTACT HOURS...1100
*Prerequisite/Corequisite required
```

Power Plant Technology, A.A.S.

The power plant program provides students with the practical knowledge and skill competencies needed to obtain an entry-level position in the electric power generation industry. The program provides an overview of the power generation industry with emphasis on coal-fired plants, that use steam turbines. However, graduates could find employment in all varieties of power plants or industry and manufacturing companies, which utilize or process steam. The program offers two options: an associate of applied science degree and a vocational certificate. Graduates will be able to find entry-level career opportunities with either option. The associate's degree requires higher math and language skills than the certificate and offers students the opportunity to pursue additional technical courses.

Missouri students should refer to Reverse Cooperative Program Information, go to: http://www.jccc.net/cooperative

Power Plant Technology

Associate of Applied Science Degree

First Semester

```
PPT  140  Generating Plant Fundamentals........................3
ENGL 121  Composition I*.......................................3
MATH 171  College Algebra or Higher*...........................3
INDT 125  Industrial Safety...................................3
ELTE 123  Electromechanical Systems...........................4
          TOTAL CREDIT HOURS.................................16
```

Second Semester

```
PPT  130  Basic Hydraulics, Mechanics and Pneumatics...........3
HVAC 143  Reading Blueprint and Ladder Diagrams...............2
PHYS 125  Technical Physics I*................................4
ELEC 131  Introduction to Sensors and Actuators...............3
CPCA 128  Personal Computer Applications......................3
INDT 155  Workplace Skills....................................1
          TOTAL CREDIT HOURS.................................16
```

Summer Semester

```
PPT  271  Power Plant Technology Internship*...................3
          TOTAL CREDIT HOURS..................................3
```

Third Semester

```
ENGL 123  Technical Writing I*................................3
PPT  250  Intro to Power Plant Combustion/Exhaust*............3
PPT  251  Intro to Power Plant Steam/Water Cycle*.............3
PPT  230  Introduction to Water Chemistry/Treatment...........3
          Humanities Elective.................................3
          TOTAL CREDIT HOURS.................................15
```

Fourth Semester

```
PPT  280  Power Plant Operations/Process Controls*............3
SPD  120  Interpersonal Communication.........................3
EMS  121  CPR-Basic Life Support Health Provider..............1
          Social Science/Economics Elective...................3
          Technical Electives.................................5
          TOTAL CREDIT HOURS.................................15
          TOTAL PROGRAM CREDIT HOURS........................65
```

Technical Electives

```
ELEC 133  Programmable Controllers............................3
CHEM 122  Principles of Chemistry.............................5
BUS  140  Principles of Supervision...........................3
BUS  141  Principles of Management............................3
ELTE 205  Industrial Electrical Wiring*.......................4
ENGL 210  Technical Writing II*...............................3
BIOL 130  Environmental Science...............................3
BIOL 131  Environmental Science Lab*..........................1
POLS 126  State and Local Government...........................3
HVAC 146  Plumbing Systems Applications.......................3
EMS  128  EMS First Responder.................................5
*Prerequisite/Corequisite required
```

Power Plant Technology Certificate

The power plant technology vocational certificate provides students with the practical knowledge and skill competencies needed to obtain an entry-level position in the electric power generation industry. The certificate program provides an overview of the power generation industry and the many available types of power generation: wind, solar, hydroelectric, refuse-derived fuel, nuclear, combustion turbines and coal-fired plants. It emphasizes coal-fired plants that use steam turbines. However, graduates could find employment in all varieties of power plants or industry and manufacturing companies that use or process steam. Graduates can work as control room operators, process control personnel or floor operators. Graduates will also be prepared for continued education in industrial maintenance, industrial/electronic controls and power transmission/distribution systems.

Missouri students should refer to Reverse Cooperative Program Information, go to: http://www.jccc.net/cooperative

Power Plant Technology

Vocational Certificate

First Semester

```
PPT  140  Generating Plant Fundamentals.......................3
INDT 125  Industrial Safety...................................3
ELTE 123  Electromechanical Systems...........................4
HVAC 143  Reading Blueprint and Ladder Diagrams...............2
PPT  130  Basic Hydraulics, Mechanics and Pneumatics..........3
          TOTAL CREDIT HOURS.................................15
```

Second Semester

```
PPT  251   Intro to Power Plant Steam/Water Cycle*..............3
INDT 155   Workplace Skills....................................1
PPT  250   Intro to Power Plant Combustion/Exhaust*............3
PPT  280   Power Plant Operations/Process Controls*............3
PPT  230   Intro to Water Chemistry/Treatment..................3
           TOTAL CREDIT HOURS.................................13
```

Summer Semester

```
PPT  271   Power Plant Technology Internship*..................3
           TOTAL CREDIT HOURS..................................3
           TOTAL PROGRAM CREDIT HOURS.........................31
*Prerequisite/Corequisite required
```

Railroad Electronics, A.A.S.

The associate of applied science in railroad electronics degree program is a restricted access program for those students enrolled in the railroad electronics certificate program who wish to progress to a degree. The certificate program has been an active program on the JCCC campus since 1993, with a total enrollment to date of approximately 325 students.

The certificate program consists of 33 credit hours of electronics courses, previously designated as ELEC courses, currently designated as RREL courses. The total program content is equivalent to the electronics degree program, but the delivery differs. Content is divided into courses differently. Examples tend to be railroad-related where possible, and courses are delivered in alternative format, combining distance learning (using a remote access server) and classroom presentations.

Electronics technology influences almost every aspect of modern life. Skilled electronics technicians are needed to support growth in the railroad industry. These technicians must be able to fabricate, test, install, operate and maintain highly technical systems, such as communications systems networks, medical delivery systems, computers and computer networks, and industrial process control systems. The program focuses on the underlying principles of electronic devices used extensively in railroad signaling, circuit analysis and digital electronics and will provide a broad systems view of electronics.

Students in the railroad electronics technology program will work with outstanding facilities and the latest laboratory equipment. Graduates of the program will have the opportunity for employment in today's most challenging and exciting railroad signal career field.

No new courses are required for this program. All RREL courses are offered as closed courses for Burlington Northern Santa Fe, with the railroad furnishing all equipment, trainers, computers and software.

Railroad Operations

Associate of Applied Science Degree

First Semester

```
RREL 180   Introduction to Railroad Electronics*...............1
RREL 181   Circuit Analysis DC/AC*.............................6
ENGL 121   Composition I*......................................3
           Science and/or Mathematics Elective.................3
           Elective............................................3
           TOTAL CREDIT HOURS.................................16
```

Second Semester

```
RREL 182   Semiconductor Devices and Circuits*.................6
RREL 183   Digital Techniques*.................................6
           Humanities Elective.................................3
           TOTAL CREDIT HOURS.................................15
```

Third Semester

```
RREL 284   Electronic Communications*...........................6
           Social Science/Economics Elective....................3
           Technical Electives..................................6
           TOTAL CREDIT HOURS..................................15
```

Fourth Semester

```
RREL 285   Microprocessor Techniques*...........................6
RREL 286   Applied Microprocessors*.............................2
           Health and/or Physical Education Elective...........1
           Communications Elective.............................3
           Technical Electives.................................6
           TOTAL CREDIT HOURS.................................18
           TOTAL PROGRAM CREDIT HOURS........................64
```

Note: MATH 111 and MATH 115 will not meet math requirements.

(Technical Electives)

```
ASTR 120   Fundamentals of Astronomy............................3
AUTO 121   Small Engine Service.................................3
AUTO 122   Introduction to Auto Glass...........................3
AUTO 125   Introduction to Automotive Shop Practices............3
BOT  101   Computerized Keyboarding.............................1
BOT  103   Business English.....................................3
BOT  105   Keyboarding/Formatting I.............................3
BOT  115   Electronic Calculators...............................1
BOT  150   Records Management...................................3
BOT  175   Conflict in the Workplace............................1
CET  105   Construction Methods.................................3
CET  120   Engineered Plumbing Systems I........................3
CET  122   Engineered Plumbing Systems II.......................3
CET  129   Construction Management..............................3
CPCA 105   Introduction to Personal Computers...................1
CPCA 106   Introduction to Personal Computers...................1
CPCA 128   Personal Computer Applications.......................3
CIS  110   Introduction to Computers............................2
CIS  124   Intro to Computing Concepts and Applications.........3
CIS  134   Programming Fundamentals.............................4
DRAF 120   Introduction to Drafting.............................2
DRAF 123   Interpreting Machine Drawings*.......................2
DRAF 129   Interpreting Architectural Drawings..................2
DRAF 132   Introduction to AutoCAD LT...........................3
DRAF 140   Topics in CAD I......................................2
DRAF 238   Architectural Drafting*..............................3
ELEC 120   Introduction to Electronics..........................3
ELEC 124   Microcomputer Hardware...............................3
ELEC 125   Digital Electronics I................................4
ELEC 131   Introduction to Sensors and Actuators................3
ELEC 133   Programmable Controllers.............................3
ELEC 150   Introduction to Telecommunications...................3
ELEC 185   LAN Cabling and Installation.........................3
ENGR 121   Engineering Orientation..............................2
GEOS 130   General Geology......................................5
GEOS 140   Physical Geography...................................3
GEOS 145   World Regional Geography.............................3
HVAC 125   Energy Alternatives..................................2
HVAC 143   Reading Blueprints and Ladder Diagrams...............2
HVAC 146   Plumbing Systems Applications........................3
HVAC 150   Refrigerant Management and Certification.............1
HVAC 155   Workplace Skills.....................................1
HVAC 167   Sheet Metal Layout and Fabrication...................3
INDT 125   Industrial Safety....................................3
INDT 140   Quality Improvement Using SPC........................2
INDT 155   Workplace Skills.....................................1
IT   200   Networking Technologies..............................3
IT   205   Implementing Windows Client..........................3
```

```
MFAB 121   Introduction to Welding................................4
MFAB 152   Manufacturing Materials and Processes.................3
MFAB 170   Basic Machine Tool Processes..........................4
MFAB 180   Blueprint and Symbols Reading for Welders............2
MFAB 240   Metallurgy...........................................2
RRT  120   History of Railroading...............................3
RRT  121   Railroad Technical Careers...........................3
RRT  150   Railroad Operations..................................3
RRT  165   Railroad Safety, Quality and Environment.............3
*Prerequisite/Corequisite required
```

Railroad Electronics Certificate

This certificate is a comprehensive program of study that covers the fundamental electronic principles used by railroad signal control systems technicians. Upon successful completion of this program, the student should be able to apply basic digital and analog theory required in the maintenance of right-of-way crossing and train control systems.

Enrollment in the program is subject to the approval of the Burlington Northern training director and JCCC division administrator.

Railroad Operations

Vocational Certificate

```
RREL 180   Introduction to Railroad Electronics*................1
RREL 181   Circuit Analysis DC/AC*..............................6
RREL 182   Semiconductor Devices and Circuits*..................6
RREL 183   Digital Techniques*..................................6
RREL 284   Electronic Communications*...........................6
RREL 285   Microprocessor Techniques*...........................6
RREL 286   Applied Microprocessors*.............................2
           TOTAL PROGRAM CREDIT HOURS...........................33
*Prerequisite/Corequisite required
```

Railroad Carman Welding Certificate

JCCC's railroad industrial technology certificate program is open only to Burlington Northern Santa Fe employees.

Enrollment is subject to the approval of the Burlington Northern Santa Fe training director and JCCC division administrator.

The railroad carman welding vocational certificate is designed to provide students with training in welding and cutting operations used by carmen employed in the railroad industry. Students completing the program should be able to demonstrate safe operating procedures for welding and cutting applications and perform skill competencies involving oxyacetylene cutting, shielded metal arc welding, gas metal arc welding and flux corded arc welding. Students should also be able to complete qualification tests according to industry standards.

Railroad Industrial Technology

Vocational Certificate

```
RRIT 127   Welding Processes*...................................2
RRIT 140   Structural Quality SMAW*.............................3
RRIT 141   Structural Quality GMAW*.............................3
           TOTAL PROGRAM CREDIT HOURS...........................8
*Prerequisite/Corequisite required
```

Railroad Machinist Welding Certificate

JCCC's railroad industrial technology certificate program is open only to Burlington Northern Santa Fe employees.

Enrollment is subject to the approval of the Burlington Northern Santa Fe training director and JCCC division administrator.

The railroad machinist welding vocational certificate is designed to provide students with training in welding and cutting operations used by machinists employed in the railroad industry. Students completing the program should be able to demonstrate safe operating procedures for welding and cutting applications and perform skill competencies involving complete qualification tests according to industry standards.

Railroad Industrial Technology

Vocational Certificate

```
RRIT 127   Welding Processes*..................................2
RRIT 140   Structural Quality SMAW*............................3
           TOTAL PROGRAM CREDIT HOURS..........................5
*Prerequisite/Corequisite required
```

Railroad Maintenance of Way Welding Certificate

JCCC's railroad industrial technology certificate program is open only to Burlington Northern Santa Fe employees.

Enrollment is subject to the approval of the Burlington Northern Santa Fe training director and JCCC division administrator.

This certificate is a comprehensive course of study addressing those skills associated with maintenance and repair of railway fixed facilities. Upon successful completion of this program, the student should be able to perform basic and advanced welding operations, complete specialized welding procedures involving maintenance and repair of railway track, perform structural welding applications involving code-quality work according to AWS D1.5 and perform tasks associated with most aspects of welding in maintenance-of-way applications.

Postsecondary Certificate

```
RRIT 122   Elements of Welding*................................3
RRIT 123   Basic Welding*......................................3
RRIT 132   Thermite Welding*...................................3
RRIT 136   Rail and Switch Point Repair*.......................3
RRIT 137   Structural Welding SMAW*............................3
RRIT 138   Structural Welding FCAW*............................3
RRIT 139   Structural Welding Pipe*............................3
RRIT 145   Frog Welding*.......................................3
ENGL 121   Composition I*......................................3
MATH 115   Introduction to Algebra*............................3
           Technical Electives.................................2
           TOTAL CREDIT HOURS.................................32
```

Technical Electives

```
MFAB 130   Gas Metal Arc Welding I.............................4
RRIT 155   Railroad Welding Review*............................2
RRT  120   History of Railroading..............................3
RRT  121   Railroad Technical Careers..........................3
RRT  150   Railroad Operations.................................3
RRT  165   Railroad Safety, Quality and Environment............3
MFAB 160   Gas Tungsten Arc Welding*...........................4
MFAB 240   Metallurgy..........................................2
DRAF 120   Introduction to Drafting............................2
*Prerequisite/Corequisite required
```

Railroad Structural Welding Certificate

JCCC's railroad industrial technology certificate program is open only to

Burlington Northern Santa Fe employees.

Enrollment is subject to the approval of the Burlington Northern Santa Fe training director and JCCC division administrator.

This certificate is designed to address the training needs for railway structural welders. Upon successful completion of this program, you should be able to demonstrate safe operating procedures for welding applications, perform skill competencies involving a variety of processes and positions, pass code welding requirements according to AWS D1.5, and perform welding operations as needed.

Railroad Industrial Technology

Vocational Certificate

```
RRIT 122   Elements of Welding*.................................3
RRIT 123   Basic Welding*......................................3
RRIT 137   Structural Welding SMAW*............................3
RRIT 138   Structural Welding FCAW*............................3
RRIT 139   Structural Welding Pipe*............................3
           TOTAL CREDIT HOURS.................................15
*Prerequisite/Corequisite required
```

Railroad Track Welding Certificate

Enrollment is subject to the approval of the Burlington Northern Santa Fe training director and JCCC division administrator.

This certificate is designed to provide a concentrated program for industry-specific training in track maintenance and repairs. Upon successful completion of this program, you should have the ability to safely operate track welding equipment, perform basic and advanced welding operations, and complete specialized procedures as needed to perform the job of railway track welder.

Railroad Industrial Technology

Vocational Certificate

```
RRIT 122   Elements of Welding*.................................3
RRIT 123   Basic Welding*......................................3
RRIT 132   Thermite Welding*...................................3
RRIT 136   Rail and Switch Point Repair Welding*...............3
RRIT 145   Frog Welding*.......................................3
           TOTAL CREDIT HOURS.................................15
*Prerequisite/Corequisite required
```

Railroad Operations - Conductor Option, A.A.S.

Conductors are responsible for supervising over-the-road operation of freight trains and are in demand throughout the railroad industry. They may choose career paths leading to locomotive engineer service or railroad management. The final phase of this program consists of six weeks of full-time training provided in cooperation with the National Academy of Railroad Sciences on the campus of JCCC, plus 18 weeks of on-the-job training after securing employment with a railroad. Selective admission to the program is based on various criteria. Interested students should meet with a JCCC counselor as early as possible.

Railroad Operations

Associate of Applied Science Degree

First Semester

```
CPCA 105   Introduction to Personal Computers..................1
CPCA 108   Word Processing on Microcomputers I*................1
CPCA 110   Spreadsheets on Microcomputers I*...................1
ENGL 121   Composition I*......................................3
```

```
MATH 133   Technical Mathematics I*...............................4
PHIL 124   Logic and Critical Thinking...........................3
RRT  120   History of Railroading................................3
           TOTAL CREDIT HOURS...................................16
```

Second Semester

```
ENGL 123   Technical Writing I*..................................3
MATH 134   Technical Mathematics II*.............................5
PHYS 125   Technical Physics I*..................................4
RRT  121   Railroad Technical Careers............................3
           Health and/or Physical Education Elective.............1
           TOTAL CREDIT HOURS...................................16
```

Third Semester

```
BUS  121   Introduction to Business..............................3
ECON 130   Basic Economic Issues.................................3
PHIL 138   Business Ethics.......................................1
RRT  150   Railroad Operations...................................3
RRT  165   Railroad Safety, Quality and Environment..............3
SPD  125   Personal Communication................................3
           TOTAL CREDIT HOURS...................................16
```

Fourth Semester

```
RRTC 123   Introduction to Conductor Service*....................4
RRTC 175   Conductor Mechanical Operations*......................2
RRTC 261   Conductor Service*....................................2
RRTC 263   General Code of Operating Rules*......................4
RRTC 265   Conductor Field Application*..........................9
           TOTAL CREDIT HOURS...................................21
           TOTAL PROGRAM CREDIT HOURS...........................69
*Prerequisite/Corequisite required
```

Railroad Operations - General Option, A.A.S.

JCCC's associate's degree program in railroad operations can prepare you for an exciting and well-paying career. The more than 500 companies that make up the U.S. railroad industry provide the country's freight and passenger transportation service on a network of some 300,000 route-miles of track. Railroads employ a substantial workforce to service, maintain and manage this extensive transportation network. JCCC's program offers five options. The general option requires 65 credit hours, the conductor option 69 credit hours, the dispatcher option 70 credit hours, the mechanical option 64 credit hours and the maintenance of way welding option 64 credit hours.

In general this option is designed to provide the student with general knowledge and skills for entry-level employment in the railroad industry. The student is introduced to the history of railroading and the various railroad crafts. Railroad operations, safety, environment and quality also are covered. The student will choose from a list of business and technical electives in order to provide a basis for possible employment and further post-employment training.

Railroad Operations

Associate of Applied Science Degree

First Semester

```
CPCA 105   Introduction to Personal Computing....................1
CPCA 108   Word Processing on Microcomputers I*..................1
CPCA 110   Spreadsheets on Microcomputers I*.....................1
ENGL 121   Composition I*........................................3
MATH 133   Technical Mathematics I*..............................4
PHIL 124   Logic and Critical Thinking...........................3
RRT  120   History of Railroading................................3
```

```
                    TOTAL CREDIT HOURS................................16
```

Second Semester

```
ENGL 123  Technical Writing I*...................................3
MATH 134  Technical Math II*.....................................5
PHYS 125  Technical Physics I....................................4
RRT  121  Railroad Technical Careers.............................3
          Health and/or Physical Education Elective............1
          TOTAL CREDIT HOURS................................16
```

Third Semester

```
BUS  121  Introduction to Business...............................3
ECON 130  Basic Economic Issues..................................3
PHIL 138  Business Ethics........................................1
RRT  150  Railroad Operations....................................3
RRT  165  Railroad Safety, Quality and Environment.............3
SPD  125  Personal Communication.................................3
          TOTAL CREDIT HOURS................................16
```

Fourth Semester

```
INDT 140  Quality Control Using SPC..............................2
          Business/Related Electives............................6
          Technical/Related Electives...........................9
          TOTAL CREDIT HOURS................................17
          TOTAL PROGRAM CREDIT HOURS........................65
```

Business/Related Electives

```
ACCT 121  Accounting I...........................................3
BUS  123  Personal Finance.......................................3
BUS  140  Principles of Supervision..............................3
BUS  141  Principles of Management...............................3
BUS  225  Human Relations........................................3
BUS  230  Marketing..............................................3
BUS  243  Human Resource Management..............................3
BUS  261  Business Law I.........................................3
ENGL 210  Technical Writing II*..................................3
BOT  101  Computerized Keyboarding...............................1
```

Technical/Related Electives

```
AUTO 125  Introduction to Automotive Shop Practices.............3
AUTO 165  Automotive Engine Repair*..............................4
CET  105  Construction Methods...................................3
CET  127  Construction Estimating*...............................3
CET  129  Construction Management................................3
CPCA 138  Windows for Microcomputers*............................1
DRAF 123  Interpreting Machine Drawings*.........................2
DRAF 129  Interpreting Architectural Drawings...................2
ELEC 120  Introduction to Electronics............................3
ELEC 124  Microprocessor Hardware................................3
ELEC 133  Programmable Controllers...............................3
ELEC 150  Introduction to Telecommunications....................4
ENGR 180  Engineering Land Surveying I*..........................3
GEOS 140  Physical Geography.....................................3
GEOS 141  Physical Geography Lab*................................2
HVAC 123  Electromechanical Systems..............................4
INDT 125  Industrial Safety......................................3
MFAB 121  Introduction to Welding................................4
MFAB 130  Gas Metal Arc Welding I................................4
MFAB 152  Manufacturing Materials and Processes.................3
MFAB 240  Metallurgy.............................................1
*Prerequisite/Corequisite required
```

Railroad Operations - Mechanical Option, A.A.S.

Mechanical services include a variety of responsibilities for the maintenance, service and repair of locomotives, freight cars and other rolling stock. Skills include diesel engine repair, electrical and electronic system repair, freight car repair and inspection, and welding processes. The final phase of the program consists of training provided in cooperation with the National Academy of Railroad Sciences. Selective admission to the program is based upon various criteria. Interested students should meet with a JCCC counselor as early as possible.

Railroad Operations

Associate of Applied Science Degree

First Semester

```
CPCA 105   Introduction to Personal Computers...................1
CPCA 108   Word Processing on Microcomputers I*................1
CPCA 110   Spreadsheets on Microcomputers I*....................1
ENGL 121   Composition I*.......................................3
MATH 133   Technical Mathematics I*.............................4
PHIL 124   Logic and Critical Thinking..........................3
RRT  120   History of Railroading...............................3
           TOTAL CREDIT HOURS..................................16
```

Second Semester

```
ENGL 123   Technical Writing I*.................................3
MATH 134   Technical Mathematics II*............................5
PHYS 125   Technical Physics I*.................................4
RRT  121   Railroad Technical Careers..........................3
           Health and/or Physical Education Elective............1
           TOTAL CREDIT HOURS..................................16
```

Third Semester

```
BUS  121   Introduction to Business............................3
ECON 130   Basic Economic Issues...............................3
PHIL 138   Business Ethics.....................................1
RRT  150   Railroad Operations.................................3
RRT  165   Railroad Safety, Quality and Environment............3
SPD  125   Personal Communication..............................3
           TOTAL CREDIT HOURS..................................16
```

Fourth Semester

```
RRIT 122   Elements of Welding*................................3
           or
MFAB 121   Introduction to Welding.............................4
RRIT 123   Basic Welding*......................................3
RRTM 124   Orientation to the Railroad Mechanical Craft*.......2
RRTM 170   Railroad Mechanical Safety and Health*..............2
RRTM 251   Locomotive Diesel Engine Fundamentals*..............2
RRTM 253   Freight Car Fundamentals*...........................2
RRTM 254   Basic Locomotive Electricity and Electronics*.......2
           TOTAL CREDIT HOURS..................................16
           TOTAL PROGRAM CREDIT HOURS..........................64
*Prerequisite/Corequisite required
```

Railroad Operations - Welding Option, A.A.S.

Maintenance of way welding involves maintenance and repair of rail and track components. The final phase of this program consists of course work provided in cooperation with the National Academy of Railroad Sciences. Selective admission to the program is based on various criteria. Interested students should meet with a JCCC counselor as early as possible.

Associate of Applied Science Degree

First Semester

```
CPCA 105    Introduction to Personal Computing...................1
CPCA 108    Word Processing on Microcomputers I*.................1
CPCA 110    Spreadsheets on Microcomputers I*....................1
ENGL 121    Composition I*.......................................3
MATH 133    Technical Mathematics I*.............................4
PHIL 124    Logic and Critical Thinking..........................3
RRT  120    History of Railroading...............................3
            TOTAL CREDIT HOURS..................................16
```

Second Semester

```
ENGL 123    Technical Writing I*.................................3
MATH 134    Technical Mathematics II*............................5
PHYS 125    Technical Physics I*.................................4
RRT  121    Railroad Technical Careers...........................3
            Health and/or Physical Education Elective...........1
            TOTAL CREDIT HOURS..................................16
```

Third Semester

```
BUS  121    Introduction to Business.............................3
ECON 130    Basic Economic Issues................................3
PHIL 138    Business Ethics......................................1
RRT  150    Railroad Operations..................................3
RRT  165    Railroad Safety, Quality and Environment.............3
SPD  125    Personal Communication...............................3
            TOTAL CREDIT HOURS..................................16
```

Fourth Semester

```
INDT 125    Industrial Safety....................................3
RRIT 122    Elements of Welding*.................................3
            or
MFAB 121    Introduction to Welding..............................4
RRIT 123    Basic Welding*.......................................3
RRIT 132    Thermite Welding*....................................3
RRIT 136    Rail and Switch Point Repair*........................3
RRIT 145    Frog Welding*........................................3
            TOTAL CREDIT HOURS..................................18
            TOTAL PROGRAM CREDIT HOURS..........................66
*Prerequisite/Corequisite required
```

Respiratory Care, A.A.S.

The respiratory therapist is involved in a variety of lifesaving and life-supporting situations. Respiratory therapists treat patients ranging in age from newborns to senior citizens in the prevention, treatment, management and rehabilitation of lung problems. Employment is typically in hospitals but is available in several other health delivery venues. The health care needs of an aging population will play a role in the future of respiratory care.

JCCC's associate of applied science program is accredited by the Committee on Accreditation for Respiratory Care. Graduates are eligible to take the National Board for Respiratory Care examinations for both the certified (CRT) and registered (RRT) respiratory therapist.

This is a selective admission program with limited enrollment. Prospective students are encouraged to visit the program Web site at http://www.jccc.net/home/depts.php/001256 or to contact JCCC program personnel for additional information and application materials at 913-469-2583.

Note: Metropolitan Community College students should seek specific counsel from the JCCC program personnel for the appropriate course plan and numbers.

Missouri students should refer to Reverse Cooperative Program Information, go

to:
http://www.jccc.net/cooperative
Respiratory Care

Associate of Applied Science Degree

Summer

```
        Social Science/Economics Elective....................3
ENGL 121 Composition I*^......................................3
        TOTAL CREDIT HOURS..................................6
```

First Semester

```
BIOL 140  Human Anatomy^......................................4
MATH 116  Intermediate Algebra*...............................3
Note: MATH 116 or MATH 171 or higher

CHEM 122  Principles of Chemistry^............................5
         Humanities/Art Elective.............................3
         TOTAL CREDIT HOURS.................................15
```

Second Semester

```
BIOL 225  Human Physiology*^.................................4
BIOL 230  Microbiology*^.....................................3
         (BIOL 231 Micro Lab is also strongly
         suggested)
EMS  121  CPR I Basic Life Support Health Care Provider.......1
HC   101  Introduction to Health Care Delivery**..............3
         Communications Elective.............................3
         TOTAL CREDIT HOURS.................................11
```

```
Note:     ^Indicates prerequisite courses that must be
completed before the clinic-year.  Electives not completed
by the clinic-year will delay credentialing eligibility.
Note:**HC 101 is not a required course
for the degree but is strongly encouraged.
See the program application
packet for details on how this course may be used to
meet clinic-year eligibility requirements.
```

Summer (clinic-year)

```
RC   125  Beginning Principles of Respiratory Care*............4
RC   130  Respiratory Care Equipment*.........................4
RC   135  Cardiopulmonary Medicine I*.........................1
         (Current BCLS for Health Care Provider required)
         TOTAL CREDIT HOURS..................................9
```

Third Semester

```
RC   220  Cardiopulmonary Physiology*.........................2
RC   230  Clinical Topics and Procedures I*...................4
RC   235  Cardiopulmonary Medicine II*........................2
RC   240  Cardiopulmonary Pharmacology*.......................2
RC   271  Clinical Practice I*................................6
         TOTAL CREDIT HOURS.................................16
```

Fourth Semester

```
RC   231  Clinical Topics and Procedures II*..................4
RC   233  Respiratory Care of Children*.......................2
RC   236  Cardiopulmonary Medicine III*.......................2
RC   272  Clinical Practice II*...............................6
```

```
                    TOTAL CREDIT HOURS..................................14
                    TOTAL PROGRAM CREDIT HOURS..........................71
                    WITH HC ELECTIVE COURSE.............................74
             *Prerequisite/Corequisite required
```

CRT-RRT Transition, A.A.S.

This curriculum is designed to meet the educational needs of currently certified respiratory therapists who seek to become registry eligible. The prerequisite courses must be completed prior to enrolling for any required respiratory course work. However, candidates are encouraged to apply before the prerequisites are completed and seek counsel regarding course credit that may be possible through the Prior Learning Assessment evaluation process, which is based on prior respiratory care training and work experiences. Prospective students are encouraged to contact JCCC program personnel at 913-469-2583 for additional information and application materials.

Respiratory Care

Associate of Applied Science Degree

CRT-RRT Transition Curriculum Requirements

Prerequisites

```
CHEM 122  Principles of Chemistry..............................5
ENGL 121  Composition I*.......................................3
MATH 116  Intermediate Algebra or Higher Math Course*..........3
PSCI 120  Physical Science.....................................4
BIOL 140  Human Anatomy........................................4
BIOL 225  Human Physiology*....................................4
BIOL 230  Microbiology Lecture*................................3
BIOL 231  Microbiology Lab*....................................2
          Social Science Elective..............................3
          Communications Elective..............................3
          Humanities Elective..................................3
          TOTAL CREDIT HOURS..................................37
The courses preceded by an "^" indicate that course credit
may be possible through Prior Learning Assessment evaluation


Respiratory Care Course Requirements:

RC   125  BEGINNING PRINCIPLES/RESP CARE^......................4
RC   130  RESPIRATORY CARE EQUIPMENT^..........................4
RC   135  CARDIOPULMONARY MEDICINE I^..........................1
RC   220  CARDIOPULMONARY PHYSIOLOGY^..........................2
RC   230  CLINIC TOPICS & PROCEDURES I^........................4
RC   235  CARDIOPULMONARY MEDICINE II^.........................2
RC   236  CARDIOPULMONARY MEDICINE III^........................2
RC   240  CARDIOPULMONARY PHARMACOLOGY^........................2
RC   271  CLINICAL PRACTICE I^.................................6
EMS  121  CPR I-BASIC LIFE SUPPORT HC PR^......................1
RC   233  Respiratory Care of Children*........................2
RC   245  RRT Clinical Topics and Procedures*..................4
RC   274  RRT Clinical Practice Transition*....................4
          TOTAL CREDIT HOURS..................................36
          TOTAL PROGRAM CREDIT HOURS..........................73
* Prerequisite/Corequisite required
          Note: Metropolitan Community College students should seek
specific counsel through PVCC counselors or the JCCC
academic director for appropriate course plans and numbers.
```

Biotechnology, A.A.S.

The greater Kansas City area and specifically Johnson County have numerous

biological-, pharmaceutical- and chemical-related formulating, manufacturing, research and testing companies. Many of these facilities employ scientific technicians to support the endeavors of their professional scientists and engineers.

JCCC's science technology program is designed to develop scientific support personnel for the metropolitan area.

This program offers specific knowledge and training designed to provide you with entry-level skills for employment as a technician. It also provides the breadth of background sufficient to encourage change and flexibility.

The biotechnology associate of applied science degree program will prepare students to work in biotechnology laboratories associated with universities, medical centers, private research institutions, and a variety of industrial applications. Upon completion of this 78-hour degree, students will be able to find entry-level or higher positions in diverse fields of biotechnology. Along with basic and more advance science courses, students will take specialized courses such as laboratory safety and biotechnology methods.

Associate of Applied Science Degree

First Semester

```
BIOL 135   Principles of Cell and Molecular Biology.............4
BIOL 160   Introduction to Biotechnology*.......................2
BIOL 165   Laboratory Safety*...................................1
CHEM 122   Principles of Chemistry..............................5
MATH 133   Technical Mathematics I or higher*...................4
           TOTAL CREDIT HOURS...................................15
```

Second Semester

```
BIOL 230   Microbiology*........................................3
CIS  124   Intro to Computing Concepts/Applic...................3
ENGL 121   Composition I*.......................................3
PHYS 133   Applied Physics*.....................................5
           Social Science/Economics Elective....................3
           TOTAL CREDIT HOURS...................................17
```

Third Semester

```
BIOL 144   Human Anatomy and Physiology.........................5
BIOL 145   Human Anatomy and Physiology Dissection*.............1
BIOL 205   General Genetics*....................................4
CHEM 140   Principles of Organic Chemistry*.....................5
ENGL 123   Technical Writing I*.................................3
           TOTAL CREDIT HOURS...................................18
```

Fourth Semester

```
BIOL 260   Biotechnology Methods*...............................5
BIOL 265   Biotechnology Internship*............................4
CHEM 250   Biochemistry*........................................4
           Humanities Elective..................................3
           Physical Education Elective..........................1
           TOTAL CREDIT HOURS...................................17
           TOTAL PROGRAM CREIDT HOURS...........................67
*Prerequisite/Corequisite required
```

Biotechnology, A.S.

The greater Kansas City area and specifically Johnson County have numerous biological-, pharmaceutical- and chemical-related formulating, manufacturing, research and testing companies. Many of these facilities employ scientific technicians to support the endeavors of their professional scientists and engineers.

JCCC's science technology program is designed to develop scientific support personnel for the metropolitan area.

This program offers specific knowledge and training designed to provide you with entry-level skills for employment as a technician. It also provides the breadth of background sufficient to encourage change and flexibility.

The biotechnology associate of science degree program will prepare students who wish to pursue a baccalaureate degree in the biological sciences. Upon completion of this 78-hour degree, students will be able to find entry-level or higher positions in the diverse field of biotechnology. Along with basic and more advanced science courses, students will take specialized courses in subjects such as laboratory safety and biotechnology methods.

Associate of Science Degree

First Semester

```
MATH 181   Statistics*........................................3
BIOL 135   Principles of Cell and Molecular Biology.............4
CHEM 124   Chemistry I Lecture*................................4
CHEM 125   Chemistry I Lab*...................................1
SPD  120   Interpersonal Communications........................3
             or
SPD  121   Public Speaking...................................3
             or
SPD  125   Personal Communication.............................3
             or
SPD  180   Intercultural Communication........................3
ENGL 121   Composition I*....................................3
           TOTAL CREDIT HOURS................................18
```

Second Semester

```
BIOL 160   Introduction to Biotechnology*......................2
BIOL 150   Biology of Organisms*...............................5
CHEM 131   Chemistry II Lecture*...............................4
CHEM 132   Chemistry II Lab*..................................1
ENGL 123   Technical Writing I*................................3
           Humanities Elective...............................3
           TOTAL CREDIT HOURS................................18
```

Summer

```
BIOL 230   Microbiology*......................................3
           Social Science/Economics Elective...................3
           TOTAL CREDIT HOURS.................................6
```

Third Semester

```
BIOL 165   Laboratory Safety*.................................1
CHEM 220   Organic Chemistry I*...............................5
PHYS 130   General Physics I*.................................5
BIOL 205   General Genetics*..................................4
           Humanities Elective...............................3
           TOTAL CREDIT HOURS................................18
```

Fourth Semester

```
BIOL 260   Biotechnology Methods*..............................5
CHEM 250   Biochemistry*......................................4
PHYS 131   General Physics II*................................5
           Social Science/Economics Elective...................3
           Physical Education Elective.........................1
           TOTAL CREDIT HOURS................................18
```

(Optional Course)

```
BIOL 265  Biotechnology Internship.............................4
          TOTAL PROGRAM CREDIT HOURS...........................78
with the optional course
          TOTAL PROGRAM CREDIT HOURS...........................82
*Prerequisite/Corequisite required
```

Biotechnology Certificate

Greater Kansas City and specifically Johnson County have numerous biological-, pharmaceutical- and chemical-related formulating, manufacturing, research and testing companies. Many of these facilities employ scientific technicians to support the endeavors of their professional scientists and engineers.

JCCC's science technology program is designed to develop scientific support personnel for the metropolitan area.

This program offers specific knowledge and training designed to provide you with entry-level skills for employment as a technician. It also provides the breadth of background sufficient to encourage change and flexibility.

The biotechnology vocational certificate is for students seeking employment in the biotechnology industry either in private or academic research laboratories. This certificate will demonstrate to potential employers that the student has experience in performing a variety of techniques necessary for the day-to-day operation.

Missouri students should refer to Reverse Cooperative Program Information, go to: http://www.jccc.net/cooperative

Science Department

Vocational Certificate

First Semester

```
BIOL 135  Principles of Cell and Molecular Biology.............4
BIOL 160  Introduction to Biotechnology*.......................2
BIOL 165  Laboratory Safety*...................................1
CHEM 122  Principles of Chemistry..............................5
MATH 133  Technical Mathematics I or higher*...................3
          TOTAL CREDIT HOURS..................................15
```

Second Semester

```
BIOL 230  Microbiology*........................................3
BIOL 260  Biotechnology Methods*...............................5
CHEM 140  Principles of Organic Chemistry*.....................5
PHYS 133  Applied Physics*.....................................5
          TOTAL CREDIT HOURS..................................18
```

Third Semester

```
BIOL 265  Biotechnology Internship*............................4
          TOTAL PROGRAM CREDIT HOURS...........................33
*Prerequisite/Corequisite required
```

Supply Chain Logistics Cert

This program focuses not only on those who currently work in a logistics career but also those who wish to test their interest and want more knowledge about that field. The program stretches all employees, including management personnel professionally. Students receive information and training that can lead them to one of hundreds of careers tied to logistics. In addition to classroom knowledge, students receive current insights from professionals in the field.

The JCCC supply chain program is offered to Johnson County residents in cooperation with Metropolitan Community Colleges of Kansas City. Related courses are taken at JCCC. You must be accepted in to the program by both MCC and JCCC. Students must be residents of Johnson County in order to

receive in-state tuition rates. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact Blue River at 816 220-6532 or visit: www.kcmetro.edu/degree.asp

Vocational Certificate

(Certificate granted by Blue River Community College)

```
Specific Program Requirements
Must be taken at Blue River
KSCL 210  Logistics Management................................3
KSCL 211  Operations Management...............................3
KSCL 212  Transportation Operations & Management..............3
KSCL 213  Warehousing & Distribution Centers..................3
Specific Courses at JCCC
JCCC students can fulfill the elective requirement by
completing one of the followinhg classes.  All of these
classes are part of the curriculum for the associate of
applied science degree in business administration.

ACCT 121  Accounting I^......................................3
BUS  120  Management Attitudes and Motivation.................3
BUS  121  Introduction to Business^..........................3
BUS  123  Personal Finance^..................................3
BUS  140  Principles of Supervision^.........................3
BUS  141  Principles of Management^..........................3
BUS  145  Small Business Management^.........................3
BUS  230  Marketing^.........................................3
BUS  235  Introduction to International Business^.............3
BUS  243  Human Resource Management..........................3
BUS  261  Business Law I^....................................3
CIS  124  Intro to Computing Concepts and Applications^......3
ECON 230  Economics I^.......................................3
          TOTAL PROGRAM
          CREDIT HOURS......................................15
          ^Available on-line or as a television course.
```

Veterinary Technology, A.A.S.

A background in veterinary technology provides opportunities for employment with veterinarians, assisting them in providing professional services and performing veterinary-related tasks. Opportunities also exist with pharmaceutical companies in technical services or laboratory animal care.

The program features supervised intensive clinical study under the direction of a licensed veterinarian and is fully accredited by the American Veterinary Medical Association. Students study sanitation, animal care, preparation of animals for surgery and anesthetic management as well as laboratory techniques and radiology.

JCCC"""""""""'s veterinary technology program is offered to Johnson County residents in cooperation with Maple Woods Community College. Both JCCC and Maple Woods Community College must accept the students into the program. Consult with a JCCC counselor for more information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. Contact Maple Woods Community College at 816-437-3235 or www.kcmetro.edu/maplewoods/vettech for an application packet, which includes deadlines, program prerequisites and admission requirements.

Associate of Applied Science Degree

```
Degree granted by Maple Woods Community College
```

(General Education Requirements-must be taken at JCCC)

```
ENGL 121   Composition I*.......................................3
SPD  121   Public Speaking......................................3
```

American Institutions

```
HIST 140   US History to 1877...................................3
           or
HIST 141   US History since 1877................................3
           or
POLS 122   Political Science....................................3
           or
POLS 124   American National Government.........................3
           or
POLS 126   State and Local Government...........................3
SOSC 153   Missouri Constitutions...............................1
```

(Specific Program Requirements-must be taken at JCCC)

```
BIOL 127   General Zoology......................................5
BIOL 230   Microbiology Lecture*................................3
BIOL 231   Microbiology Lab*....................................2
CHEM 122   Principles of Chemistry..............................5
CPCA 128   Personal Computer Applications.......................3
```

(Specific Program Requirements-must be taken at Maple Woods)

```
KSAH 108   Clinical Mathematics.................................1
KSAH 100   Introduction to Veterinary Technology................2
KSAH 101   Principles of Animal Science I.......................3
KSAH 110   Principles of Animal Science II*.....................3
KSAH 111   Sanitation and Animal Care...........................2
KSAH 200   Veterinary Hospital Technology I*....................3
KSAH 201   Clinical Pathology Techniques I*.....................4
KSAH 202   Veterinary Anatomy*..................................5
KSAH 203   Laboratory Animal Technology*........................2
KSAH 209   Equine Medicine and Management.......................3
KSAH 210   Animal Hospital Technology II*.......................3
KSAH 211   Clinical Pathology Techniques II*....................5
KSAH 212   Large Animal Technology*.............................4
KSAH 213   Radiology and Electronic Procedures..................2
KSAH 214   Veterinary Technician Internship*....................6
           TOTAL PROGRAM CREDIT HOURS..........................76
*Prerequisite/Corequisite required
```

Credit Course Descriptions

The following course offerings at JCCC are listed alphabetically by subject area. Clicking on the subject in which you are interested will give you a list of all courses that fall under that subject and a course description (including credit hour value) for each of those courses. If you then click on a particular course (ANTH 125, for example), you will be directed to a copy of the course outline, which includes the objectives and competencies covered in the course.

- A -

Academic Achievement Center (AAC)
Accounting (ACCT)
Administration of Justice (ADMJ)
Anthropology (ANTH)
Architecture (ARCH)
Art (ART)
Astronomy (ASTR)
Automotive Technology (AUTO)

- B -

Biology (BIOL)
Bus Entrep-See Entrepreneurshi (BUSE)
Business (BUS)
Business Logistics Management (KSCL)
Business Office Technology (BOT)

- C -

Chemistry (CHEM)
Civil Engineering Technology (CET)
Communication Design (CD)
Computer Desktop Publishing (CDTP)
Computer Forensics (CFOR)
Computer Information Systems (CIS)
Computer Personal Computer App (CPCA)
Computer Science (CS)
Computer Web (CWEB)
Cosmetology (AVCO)

- D -

Dental Assisting (KDA)
Dental Hygiene (DHYG)
Drafting/CAD/AutoCAD (DRAF)

- E -

Economics (ECON)
Education and Early Childhood (EDUC)
Electrical Technology (ELTE)
Electronics (ELEC)
Emergency Medical Science/MICT (EMS)
Engineering (ENGR)
English (ENGL)

- F -

Fashion Merchandising/Design (FASH)
Fire Services Administration (FIRE)
Foreign Language (FL)

- G -

Game Development (GAME)
Geoscience (GEOS)

- H -

Health Care (HC)
Health Information Technology (KMRT)
Health Occupations (AVHO)

Heating,Vent.,Air Conditioning (HVAC)
History (HIST)
Home Economics (HMEC)
Honors Program (HON)
Horticulture (HORT)
Hospitality Management (HMGT)
Humanities (HUM)

- I -

Industrial Technology (INDT)
Information Technology (IT)
Interactive Media (CIM)
Interior Design (ITMD)
Interpreter Training (INTR)

- J -

Journalism/Media Communication (JOUR)

- L -

Leadership (LEAD)
Learning Communities (LCOM)
Learning Strategies (LS)
Legal Studies (LAW)
Library (LIBR)

- M -

Marketing Management (MKT)
Mathematics (MATH)
Metal Fabrication and Welding (MFAB)
Music (MUS)

- N -

Nursing (NURS)

- O -

Occupational Therapy Assistant (KOT)

- P -

Philosophy (PHIL)
Photography (PHOT)
Physical Ed, Health & Rec (HPER)
Physical Science (PSCI)
Physical Therapist Assistant (KPT)
Physics (PHYS)
Political Science (POLS)
Power Plant Technology (PPT)

Practical Nursing (AVPN)
Psychology (PSYC)

- R -

Radiologic Technology (KRAD)
Railroad Conductor (RRTC)
Railroad Dispatcher (RRTD)
Railroad Electronics (RREL)
Railroad Industrial Technology (RRIT)
Railroad Maintenance of Way (RRMW)
Railroad Operations (RRT)
Railroad Operations-Mechanical (RRTM)
Railroad Work Equipment (RRWE)
Reading (RDG)
Religion (REL)
Respiratory Care (RC)

- S -

Sociology (SOC)
Speech/Debate (SPD)
Surgical Technology (KST)

- T -

Theater (THEA)

- V -

Veterinary Technology (KSAH)

Academic Achievement Center (AAC)

AAC 100
STUDY SKILLS (1 CR)
This self-instructional course is designed to improve students' ability to study efficiently. Based on the results of a study skills survey administered during the student's initial visit to the center, an individualized program is established. Using instructional material provided by the AAC, students will master a variety of concepts, including time management, goal setting, textbook reading, note taking from textbook and from lecture, stress management, test taking, and using An Academic Achievement Center instructor is available to work with the student to establish specific instructional goals, administer tests, and provide individualized instruction as it is needed to complete the student's program. This course does not fulfill degree requirements.

AAC 101
STUDY SKILLS MINI-COURSE (1 CR)
This class is designed to improve students' ability to study efficiently. The focus is an array of skills the college student needs , i.e., test-taking skills and note-taking skills, using a textbook, critical reading and memory recall, and effective listening and classroom strategies. Also covered are services the college offers to facilitate the learning experience for the college student, i.e., the Writing Center, the Math Resource Center, the Academic Achievement Center, the Student Success Center and the Billington Library. The format includes reading, discussion and

application activities. This course does not fulfill degree requirements.

AAC 102
BASIC SPELLING (3 CR)

This self-instructional course is for students who wish to improve their spelling ability but who have not been successful in the traditional spelling program. This course provides a highly structured approach to spelling improvement through mastery of morphographs (units of meaning and guidelines for combining morphographs. A limited number of spelling rules are taught in the course. This course is ideal for students for whom English is a second language. An Academic Achievement Center instructor is available to work with students to establish specific goals, administer tests, and provide individualized instruction as needed to complete the students' program. This course does not fulfill degree requirements.

AAC 103
ADVANCED SPELLING (1 CR)

This self-instructional course is for students who need to learn or review the basic spelling concepts and to improve their level of spelling mastery. Based on the results of a pretest administered during the student's initial visit, an individualized program is established. Using instructional material provided by the AAC, students will master a variety of concepts, including the final-e rule, the doubling rule, the y-to-i rule, forming the plurals and using possessives. In addition, students will monitor misspellings that occur in their own writing and will master the correct spelling of those words. A post-test will be administered at the end of the program to measure progress. An Academic Achievement Center instructor is available to work with students to establish specific instructional goals, administer tests and provide individualized instruction as needed to complete the students' program. This course does not fulfill degree requirements.

AAC 104
READING COMPREHENSION (1 CR)

This self-instructional course is designed for students who wish to improve their understanding of written language. A pretest is administed to determine a baseline reading comprehension level. An individualized program of study will be developed for each student which includes both instructional and practice material provided by the A.A.C. Textbooks, computer software and handouts are some of the materials used in this course. This course does not fulfill degree requirements. Students learn techniques for increasing reading comprehension, which include previewing, questioning, careful reading with notetaking, reciting and reviewing. An Academic Achievement Center instructor is available to work with students to establish specific goals, administer tests and provide individualized instruction as needed to complete the students program. This course does not fulfill degree requirements.

AAC 105
READING RATE (1 CR)

This self-instructional course is designed for students who demonstrate strong comprehension skills and wish to improve the rate at which they process written language. Students learn techniques for increasing reading rate and for improving skimming and scanning levels. A pretest will be administered to determine a baseline reading efficiency rate. An individualized program of study will be developed for each student which includes both instructional and practice material provided by the A.A.C. Textbooks, computer software and handouts are some of the materials used in this course. An Academic Achievement Center instructor is available to work with students to establish specific instructional goals, administer tests and provide individualized instruction as needed to complete each student's program. This course does not fulfill degree requirements.

AAC 106
VOCABULARY DEVELOPMENT (1 CR)

This self-instructional course is designed for college students who wish to expand both their receptive and expressive vocabulary levels. College students are expected to be able to recognize and use vocabularies specific to specialized and changing contents, i.e., data processing, sociology and business. A vocabulary placement test will be administered to determine a starting level. Instuctional material provided by the A.A.C. includes Latin and Greek derivatives, specialized vocabulary, stated and and implied meanings as well as the process of acquisition (context clues, etymology and derivatives). An Academic Achievement Center instructor is available to work with the student to establish specific instructional goals, administer tests and provide individualized instruction as needed to complete the student's program. This course does not fulfill degree requirements.

AAC 112
BASIC MATH REVIEW (1 CR)

This self-instructional course is designed for students who need to learn or review basic mathematical concepts. Based on the results of a pretest administered during the student's initial visit to the Center, an individualized program is established. While one student may begin the program with multiplication facts, another may begin with solving proportions or equations. Instructional material is provided by the A.A.C. An Academic Achievement Center instructor is available to work with the student to establish specific instructional goals, administer tests and to provide individualized instruction as needed to complete the student's program. This course does not fulfill degree requirements.

AAC 113
ALGEBRA PREPARATION (1 CR)

This self instructional course is designed for students who possess basic math skills and want to learn basic concepts in algebra. Based on the results of a pretest administered during the students' initial visit to the center, an individualized program is established. Using instructional material provided by the AAC, students will master a variety of concepts, including the terminology of mathematics and algebra, simplifying open expressions, solving algebraic equations and other concepts. An Academic Achievement Center instructor will be available to work with the student to establish specific instructional goals, administer tests and provide individualized instruction as needed to complete the student's program. This course does not fullfill degree requirements.

AAC 114
CHEMISTRY PREPARATION (1 CR)

This self-instructional course is designed for students who need to learn or review the basic chemistry concepts. Based on the results of a pretest administered during the student's initial visit to the center, an individualized program is established. Using instructional material provided by the AAC, students will master a variety of concepts, including chemical symbols and formulas, valences, chemical equations, the metric system, units and dimensions, temperature, numbers in exponent form, significant figures, electrical charges, acids, bases, salts and solubility. An Academic Achievement Center instructor is available to work with the student to establish specific instructional goals, administer tests and provide individualized instruction needed to complete the student's program. This course does not fulfill degree requirements.

AAC 115
COLLEGE SKILLS DEVELOPMENT (1 CR)

This course is designed to improve student self-awareness and institutional awareness. Focus is on strengthening the student's ability to use campus resources and services, as well as improving self-awareness in terms of communication skills, aptitudes, interests, values pertaining to career/life decisions, and self-advocacy. This course does not fulfill degree requirements.

AAC 1161
Case Management in Mediation

You will become with the Kansas Statues defining the role of Domestic Case with

high conflict families. You will be introduced to the use of Domestic Case Management in the Johnson County Courts. Through a combination of lecture, discussion, hand-outs and class activities, you will learn various strategies used to address problems frequently encountered with parties involved in Domestic Case Management situation.

AAC 120
INDIVIDUALIZED STUDY (1 CR)

This self-instructional course is designed for students who want to improve in any of the following AAC areas: study skills, reading comprehension, reading rate, vocabulary improvement, advanced spelling, basic math, algebra preparation or chemistry preparation. Once the area of study has been determined, a pretest will be administered by the instructor and a program of study will be developed using materials provided by the AAC. An Academic Achievement Center instructor is available to work with students to establish specific goals, administer tests, and to provide individualized instruction needed to complete the students program. This course does not fulfill degree requirements.

AAC 121
INDIVIDUALIZED STUDY (2 CR)

This self-instructional course is designed for students who want to improve in one or two of the following AAC areas: study skills, reading comprehension, reading rate, vocabulary improvement, advanced spelling improvement, advanced spelling, basic math, algebra preparation or chemistry preparation. Once the areas of study have been determined, a pretest will be administered by the instructor in each of these areas and a program of study will be developed using materials provided by the AAC. An Academic Achievement Center Instructor is available to work with students to establish specific goals, administer tests, and to provide individualized instruction needed to complete the students program. This course does not fulfill degree requirements.

AAC 122
INDIVIDUALIZED STUDY (3 CR)

This self-instructional course is designed for students who want to improve in two or three of the following AAC areas: study skills, reading comprehension, reading rate, vocabulary improvement, advanced spelling, basic math, algebra preparation or chemistry preparation. Once the areas of study have been determined, a pretest will be administered by the instructor in each of these areas, and a program of study will be developed using materials provided by the AAC. An Academic Achievement Center Instructor is available to work with students to establish specific goals, administer tests, and to provide individualized instruction needed to complete the students program. This course does not fulfill degree requirements.

AAC 130
MEDICAL TERMINOLOGY (3 CR)

This self-instructional course is designed for the student who wants to learn a systematic format for acquiring a medical vocabulary. The course begins with a study of suffixes and prefixes common to most of the body systems and guidelines for combining word parts and forming plurals. This is followed by a study of each body system and oncological terminology. Any student who is planning a career in any facet of the health care industry will find this course beneficial. An Academic Achievement Center instructor is available to work with students to establish specific goals, administer tests and provide individualized instruction as needed to complete the students program.

AAC 135
CAREER/LIFE PLANNING (3 CR)

This course helps students make decisions about their college majors, careers and other life goals. It emphasizes career research as a tool for making current career decisions and meeting changes in the future workplace. Students learn a systematic approach for making career and life decisions based on their interest,

skills and values.

AAC 150
JOB SEARCH SKILLS (1 CR)

This class presents the skills students need to conduct an effective job search, including locating job leads, writing resumes, and employment interviewing. Additionally, students will explore the importance of adapting to changes in the workplace to ensure their job survival and success. The class consists of lectures, activities, discussion and exercises in the career planning and job search process.

Accounting (ACCT)

ACCT 111
SMALL BUSINESS ACCOUNTING (3 CR)

This course will introduce the basic accounting procedures needed to maintain daily records for a small business and the use of such records in the decision-making process. Upon successful completion of the course, the student will be able to maintain a set of financial records with the occasional help of an outside accountant. This course does not prepare the student for Accounting II. 3 hrs./wk.

ACCT 121
ACCOUNTING I (3 CR)

This course is an introduction to accounting fundamentals. Upon successful completion of this course, a student should be able to analyze transactions, use various journals and ledgers, prepare financial statements and summarize results at the close of the fiscal period for the sole proprietorship. 3 hrs./wk.

ACCT 122
ACCOUNTING II (3 CR)

Prerequisite: ACCT 121

This course is a continuation of ACCT 121. Upon successful completion of this course, the student should be able to prepare and use financial statements with increased emphasis on interpretation and use of accounting data peculiar to partnerships, corporations and manufacturing firms. 3 hrs./wk.

ACCT 131
FEDERAL INCOME TAXES I (3 CR)

This course teaches the student federal income tax rules and the procedures for reporting federal income tax. Upon completion of this course, the student should be able to do short- and long-range tax planning and keep records that will provide appropriate information for use in preparing federal income tax. The student should also be able to prepare the standard individual federal income tax return. 3 hrs./wk.

ACCT 135
COMPUTER ACCOUNTING APPLICAT (3 CR)

Prerequisite: ACCT 121 or ACCT 111

Upon successful completion of this course, a student will be able to use the microcomputer to create a chart of accounts, accounts receivable and payable subsidiary ledgers, transaction journals, general ledgers, financial statements, reports and forecasts. 3 hrs./wk.

ACCT 140
COMPUTERIZED ACCT PROBLEMS (3 CR)

Prerequisite or Corequisite: ACCT 122

The course will teach students how to use spreadsheet and database software to set up and solve accounting problems. 3 hrs/wk.

ACCT 215
ACCT/NONPROFIT ORGANIZATIONS (3 CR)

Prequisite: ACCT 121

This course is a three-hour survey course of not-for- profit accounting and its primary users: federal, state and local governments; hospitals; and schools. Upon successful completion of the course, the student should be able to describe the primary funds and accounting groups, assist in the budget process, and practice variances among the major nonprofit organizations according to their authoritative pronouncements. 3 hrs./wk.

ACCT 221
COST ACCOUNTING (3 CR)

Prerequisite: ACCT 122

Upon completion of this course, the student should be able to develop and use accounting information to plan and control operations, value inventory, determine income in a manufacturing environment, and evaluate subsequent results. 3 hrs./wk.

ACCT 222
MANAGERIAL ACCOUNTING (3 CR)

Prerequisite: ACCT 122

Upon completion of this course, the student should be able to develop and use accounting information as an instrument of management control. Students will recognize needed information, determine where it can be obtained and decide how this information can be used by managers to plan, control and make decisions. Material covered includes financial statement analysis, cost application and budgeting reports management. 3 hrs./wk.

ACCT 231
INTERMEDIATE ACCOUNTING I (3 CR)

Prerequisite: ACCT 122

The course will present the use of accounting theory in the preparation of financial reports. Upon successful completion of this course, the student should be able to solve problems that arise in the presentation of cash, receivables, inventories, tangible and intangible assets on the statement of financial position, and their related effect on the statement of income. 3 hrs./wk.

ACCT 232
INTERMEDIATE ACCOUNTING II (3 CR)

Prerequisite: ACCT 122

Accounting theory learned through the study of accounting concepts and technical procedures will be presented in this course. Upon completion, the student should be able to solve problems in the presentation of capital structures, long-term investments, debts, leases, pensions, the analysis of financial statements, and price-level, and fair value accounting and reporting. 3 hrs./wk.

ACCT 278
ACCOUNTING INTERNSHIP I (1 CR)

Prerequisite: ACCT 121

The student will be able to gain work experience in an approved training station under instructional supervision in an accounting or an accounting-related occupation.This internship is designed to give students the opportunity to apply the skills they have acquired in accounting specialty courses. The internship will

require an average of 15 hours of job training per week by arrangement.

ACCT 285
ACCOUNTING CAPSTONE (3 CR)

Prerequisites: ACCT 122 and 15 hours of accounting courses and permission of the division administrator

This course is designed as a capstone experience before entering the workplace. Students will maintain a complete set of books and related financial statements both manually and electronically through an accounting cycle. Students will use previously prepared financial statements to make informed judgments and solve problems, identify and apply ethical positions and effectively communicate this information to others both orally and in writing.

Administration of Justice (ADMJ)

ADMJ 120
WRITING IN THE DISCIPLINES (1 CR)

Writing in the Disciplines is designed to complement and/or support the Administration of Justice Program by emphasizing the type of writing required in a law enforcement career. Students will review the rules of grammar, especially verb tense, pronoun usage, spelling, sentence correctness, and punctuation, and then they will practice writing a variety of report narratives representative of a career in law enforcement. Students enrolled in this class must come to the Writing Center, LIB 308, to make arrangements for their class schedule, to pick up a syllabus and other materials, and to be assigned an instructor. The course is a combination of written material and software. All completed work will be kept in a folder in the Writing Center. Students should anticipate approximately 20 hours of work to complete the course. This course is a required course in the Administration of Justice degree program.

ADMJ 121
INTRO TO ADMIN OF JUSTICE (3 CR)

The student will be required to participate in field and classroom experiences designed to explore the career opportunities within the criminal justice system. The student will demonstrate through examinations, assigned papers and reports his or her knowledge of law enforcement processes, minimum requirements at entry level for local, state, and federal law enforcement, the minimum training standards of each and the training and education programs available and required in Kansas. 3 hrs/wk.

ADMJ 124
CRIMINAL JUSTICE & CORRECTIONS (3 CR)

This course is a detailed exploration of the subsystems of the criminal justice system. It will begin with the history and evolution of the penal system. The law, legal system and criminal justice process will be reviewed. The major focus of the course will be a sociological perspective of the penal system. This focus includes a detailed examination of jails, detention facilities, probation, prisons and parole. An overview of the state, local and federal correctional systems will provide a systemic view of society's response to criminal behavior. 3 hrs. lecture/ wk.

ADMJ 127
CRIMINOLOGY (3 CR)

This class will explore various explanations for criminal behavior including choice, biosocial, psychological, social structure and social process theories. Society's responses to crime will also be examined. 3 hrs./wk.

ADMJ 130
CRIME PREVENTION (3 CR)

Topics of special interest include the techniques public service agencies use to operate crime-prevention programs and provide technically accurate, cost-effective security recommendations to the community. 3 hrs./wk.

ADMJ 133
JUVENILE DELINQUENCY (3 CR)

This class will provide an analysis of detention procedures, disposition, custody and treatment of juvenile offenders throughout the United States with a specific interest in area systems. The origin and development of juvenile agencies, as well as the organization, functions and jurisdiction of juvenile courts, will be studied. 3 hrs./wk.

ADMJ 136
POLICE AND THE PUBLIC (3 CR)

This course will identify and analyze conflict that arises between police and the community they serve. 3 hrs./wk.

ADMJ 140
CONSTITUTIONAL CASE LAW (3 CR)

Students will study Supreme Court decisions that have had significant effect on law enforcement techniques and procedures. 3 hrs./wk.

ADMJ 141
CRIMINAL LAW (3 CR)

Prerequisite: ADMJ 124 or PL 121

After taking this course, the student will be able to state the two basic elements necessary for any crime and the philosophy behind these two elements. After a detailed exploration of common law crimes and selected Kansas and Missouri statutes, the student will be able to classify common law crimes and state the difference between a felony and a misdemeanor. The student will understand the significance of the separation of powers doctrine and its application to criminal law and the constant interplay of the U.S. Constitution in criminal law. 3 hrs./wk.

ADMJ 143
CRIME ANALYSIS (3 CR)

Students will learn crime profiling skills and specialized techniques of conducting research, analyzing data and producing crime analysis products. Students will survey existing computer applications and learn practical use and evaluation of these applications. Students will become familiar with the common written reports, charts and graphs used to describe crime analysis products. Students will survey the variety of customers served by crime analysts and the integral part crime analysis plays within the community. 3 hrs. lecture/wk.

ADMJ 145
FUNDAMENTALS PRIVATE SECURITY (3 CR)

In addition to understanding the general field of private security, the student will be able to differentiate between the security needs of industry, private business, government and selected educational institutions. 3 hrs./wk.

ADMJ 146
RETAIL SECURITY (3 CR)

This is a study of retail security supervision and management. Topics will include employment practices, employee dishonesty, controlling shoplifters, and building and perimeter protection. 3 hrs./wk.

ADMJ 148
FAMILY VIOLENCE/SEXUAL ABUSE (3 CR)

A description and causal analysis of the different physical, psychological and sexual abuse acts that may occur within the primary family unit will be provided in this course. The study will include possible causative factors; psychological and social effects on the various family members; psychological, social and legal implications; treatments; and the relationship between abuse and crime. 3 hrs./wk.

ADMJ 154
FUND CRIMINAL INVESTIGATION (3 CR)

Prerequisite: ADMJ 124

Topics covered in this course will include crime-scene search techniques, collection and preservation of evidence, interviewing, and logical reconstruction of the crime. 3 hrs./wk.

ADMJ 170
INTRO/SUBSTANCE USE AND ABUSE (3 CR)

This course explores mood-altering substance use and abuse, including these substances' history and evolution. The course will focus on the models of abuse, addiction and treatment. The current local and federal laws governing substance use and abuse will be examined. Students will gain a comprehensive grasp of the current facts, focuses and methods of dealing with mood-altering substances. 3 hrs. lecture/wk.

ADMJ 201
CRIMINAL JUSTICE COMMUNICTNS (3 CR)

This class will help students develop their verbal and written communications in the criminal justice area. Emphasis will be placed on the development of skills in interviewing, interrogation and report writing. The major emphasis will be placed upon the development of basic skills used in technical writing in the criminal justice field. Students will leave the class with the knowledge and ability to interview victims, witnesses and suspects and to use the information gained to write an accurate, complete narrative police report. 3 hrs. lecture/wk.

ADMJ 221
INTRODUCTION TO FORENSICS (3 CR)

The student will gain knowledge and skill in the organization and function of a forensics laboratory. The student will demonstrate knowledge and skill in the techniques and methods used to establish the identity of tools and instruments used in the commission of a crime. 3 hrs. lecture/wk.

ADMJ 224
INTRODUCTION TO TERRORISM (3 CR)

This course defines and describes for students and current police officers terrorism, current terrorist organizations, their personnel and history and their capacity to threaten the security and interests of the United States. Within this context, students learn how law enforcement officials can predict patterns of terrorist activities. The course focuses especially on law enforcement's methods for combating terrorism within multiple arenas, including deterrence, detection, prevention and swift response. The course further addresses the challenges facing law enforcement and intelligence agencies in developing a coordinated response to terrorism. 3 hrs. lecture/wk.

ADMJ 230
CRIMINAL BEHAVIOR (3 CR)

Prerequisite: PSYC 130

This course is a detailed survey of the various psychological pathologies displayed by citizens when coming into contact with the police, as well as the sources of those pathologies. Various strategies of handling and dealing with troubled persons will be discussed. Student will learn about psychological profiling and mental status examination. Factors contributing to individual

behavior will be explored. Students will receive an overview of common treatment procedures. 3 hrs. lecture/wk.

ADMJ 265
ADVANCED POLICE TRAINING

Prerequisite: Open only to currently employed full-time police officers attending the Police Academy under sponsorship of a law enforcement agency

This course consists of 140 clock hours of law enforcement training provided in addition to the 400 hours required by the Kansas Minimum Standards Training Act for recruits attending the Police Academy. While the required 400-hour curriculum is provided without fee, enrollment in advanced training is required of all those attending the academy. The curriculum covers law, criminal investigations, patrol procedures, defensive tactics, report writing and specialized training required by local law enforcement agencies.

ADMJ 280
CRIMINAL JUSTICE & THE PUBLIC (3 CR)

Prerequisite: ADMJ 120 and ADMJ 121 and ADMJ 124 and ADMJ 127 and at least five (5) additional credit hours of Administration of Justice course work

This capstone course for administration of justice majors will identify and analyze conflict that arises between various parts of the criminal justice system and the communities they serve. The student will study needs and interests of various citizen populations as well as appropriate methods of serving those populations. The student will also study concepts of ethics and professionalism and will apply those concepts in an administration of justice field. 3 hrs. lecture/wk.

ADMJ 281
READINGS IN POLICE SCIENCE (3 CR)

Prerequisite: 15 credit hours in ADMJ courses

The class will consist of selected readings in police science on topics such as police administration, criminal investigation, criminology, corrections, juvenile problems and evidence. By arrangement.

ADMJ 285
ADMIN JUSTICE INTERNSHIP (3 CR)

Prerequisite: Fifteen credit hours in ADMJ courses or division administrator approval and a grade point average of 2.0 or higher

The student will gain experience in settings that reflect the application of knowledge and skills acquired in the Administration of Justice program. The student is expected to interact in a structured format with a professional agency, in a role related to study and career interests, and to develop insight and information that will help refine career directions and focus further study.

Anthropology (ANTH)

ANTH 125
CULTURAL ANTHROPOLOGY (3 CR)

This introductory course will examine the political, economic, religious, family and social aspects of major groups of people around the world. Hunters, tribesmen, peasants and industrial populations will also be studied. 3 hrs./wk.

ANTH 126
PHYSICAL ANTHROPOLOGY (3 CR)

This course will be a study of the basic concepts, methods and research areas in physical anthropology. Scientific methods, forces of evolution, dating methods, archaeological techniques, primate characteristics and behavior, and the tracing of primate and human evolution through skeletal material and artifacts will be

among the topics discussed. 3 hrs./wk.

ANTH 130
WORLD CULTURES (3 CR)

This ethnographic course in anthropology will examine a representative group of cultures from each major region of the world. Foragers, tribal farmers, pastoralists, agrarian societies and folk cultures will all be studied holistically and comparatively. 3 hrs./wk.

ANTH 134
NATIVE AMERICANS (3 CR)

This ethnographic course in cultural anthropology seeks understanding of the prehistory, history and contemporary setting of the first nations of North, Central and South America. It examines the ecological framework in which these diverse societies have developed and their relationships with each other. It then analyzes the past and present status, legal and social, of a representative group of North American cultures. Finally, it describes the significant role that Native Americans will play in the national life of the United States in the 21st century. 3 hrs. lecture/wk.

ANTH 140
ARCHAEOLOGY (3 CR)

This course will be a study of the basic concepts, methods and research areas in archaeology. Archaeology methods and techniques, the earliest evidence of tools and other cultural remains, the Middle Paleolithic to Upper Paleolithic transition, the peopling of the Americas, the development of agriculture and the evidence for complex societies will be among the topics discussed. 3 hrs./wk.

Architecture (ARCH)

ARCH 120
INTRODUCTION TO ARCHITECTURE (3 CR)

This course is an introduction to the profession of architecture through a study of its history, vocabulary, theories and practices. The facets that make up the total architectural curriculum as well as the various professional roles that architects can be expected to perform will be covered. Architectural study is seen as both an art and a science. The interdisciplinary character of architectural practice is emphasized. 3 hrs. lecture/wk.

ARCH 130
ARCHITECTURAL GRAPHICS I (3 CR)

This course is designed to build a conceptual and manual foundation for further professional architectural education. Students will learn to apply a variety of media and drawing systems such as freehand drawing and architectural lettering; equipment usage; applied geometry; line, tone, texture and color studies; and multiview, paraline, axonometric and oblique drawings as they relate to architectural forms. Emphasis will be on learning to think in spatial terms as well as developing graphic presentation skills using standard graphic conventions. 6 hrs. integrated lecture, studio/wk.

ARCH 131
ARCHITECTURAL GRAPHICS II (3 CR)

Prerequisite: ARCH 130

This course builds upon the conceptual and manual skills acquired in Architectural Graphics I. Students will expand their ability by learning to apply a variety of media and advanced drawing systems, such as design drawing techniques, model building, graphic diagramming, grid perspective drawing, projection perspective drawing, and shade and shadow studies. Emphasis will continue to

be on learning to think in spatial terms as well as developing a new repertoire of graphic presentation skills. 6 hrs. integrated lecture, studio/wk.

ARCH 140
ARCHITECTURAL DESIGN (3 CR)

Prerequisite: ARCH 130

This course introduces the student to the process and vocabulary of design. The purpose of the content is to develop the ability to solve two- and three-dimensional design problems with basic methods, vocabulary and media appropriate to the architectural profession. 6 hrs. integrated lecture, studio/wk

ARCH 240
ARCH HISTORY:ANCIENT/MIDDLE AG (3 CR)

This course will trace the development of the built environment from Antiquity to the Middle Ages and explore pre-Columbian, Islamic and other non-Western architecture. Emphasis will be placed on how materials, technological advances and natural environment influence architecture. The shaping of architecture through cultural forces will be stressed. Fundamental design principles and analysis of the built form will also be covered. 3 hrs. lecture/wk.

ARCH 241
ARCH HIST:REN/ENLIGHTENMENT (3 CR)

This course will investigate the architecture of the Renaissance, Baroque and Enlightenment periods. A brief exploration on non-Western architecture paralleling the Western periods will also be presented. The focus of this course will be on the principles of design, cultural forces and concept of the built environment within its historical context. The work of prominent architects from each period will be highlighted and analyzed. 3 hrs. lecture/wk.

ARCH 281
HONORS (1 CR)

A description is not available for this course.

Art (ART)

ART 124
DESIGN 2D (3 CR)

This is an introductory study of the principles of visual perception, two-dimensional space organization and the visual elements of line, shape, texture and space. Concepts, materials and processes necessary to an understanding of two-dimensional form are explored using traditional and digital tools and techniques. 6 hrs./wk.

ART 127
DESIGN 3D (3 CR)

Prerequisite: ART 124

This is a study of the function of three-dimensional organization in the development of visual ideas. Concepts, materials and processes necessary to an understanding of the three-dimensional relationships of space, form, form evolution and the dynamics of structure are explored. 6 hrs. lecture and studio/wk.

ART 129
DESIGN COLOR (3 CR)

This is a study of the nature of color, its physical properties and visual qualities. Basic theories, phenomena and their applications will be explored using pigment, colored paper and digital color systems. 6 hrs./wk.

ART 130
DRAWING I (3 CR)

This is an introductory course with an emphasis on the development of fundamental drawing skills, increased power of observation and an awareness of the personally expressive and compositional aspects of drawing. 6 hrs./wk.

ART 131
DRAWING II (3 CR)

Prerequisite: ART 130

This course involves intermediate problems in drawing with emphasis on individual expression based on historical as well as contemporary concerns and approaches in art. Students will work from models, still- life, and conceptual presentations. A variety of media will be explored. 6 hrs./wk.

ART 135
PAINTING I (3 CR)

This course is an introduction to the basic elements of painting. Students will learn basic painting skills, color properties, color mixing, color relationships, applications and proper use of tools and equipment. 6 hrs./wk.

ART 136
PAINTING II (3 CR)

Prerequisite: ART 135

This course involves intermediate problems in painting with emphasis on individual expression based on historical as well as contemporary concerns and approaches in art. 6 hrs./wk.

ART 138
DIGITAL IMAGING FOR ARTISTS (3 CR)

This course is an introduction to the use of the computer as a medium for making fine art. The course will emphasize developing the student's skill in making expressive visual statements using computer technology. 6 hrs./wk.

ART 142
CERAMICS I (3 CR)

This course is designed to build a conceptual and manual foundation for future ceramics education. Students will study the properties of clay, its preparation, hand and wheel techniques, surface design, firing methods, fundamental ceramic terms, principles of design, introductory ceramic history and orientation to safe practices for the ceramic artist. Emphasis will be on developing skills appropriate to the beginning student for the purpose of creative and technical expression. 6 hrs./wk.

ART 143
CERAMICS II (3 CR)

Prerequisite: ART 142

This course covers more advanced methods and studio practices in creative ceramic wheel expression and glaze formation. Emphasis is on development of a sense of thrown form and creative decoration or optional creative non-wheel ceramic form development. The course focuses on advanced ceramic form production, aesthetic issues, investigative study and practice. Clay, glaze and firing techniques are investigated in depth.The student acquires a repertoire of studio skills, a deeper awareness of ceramic history and articulated criteria of judgment. Individual interpretation and conceptual development are expected. The study of aesthetics of ceramic form is undertaken. 6 hrs./wk.

ART 145

SCULPTURE I (3 CR)

Students will explore and study natural and synthetic sculptural forms as they create work using traditional or contemporary media and techniques. Assignments require work in limestone, clay, wax, bronze, aluminum and steel, and involve carving, modeling and building up. 6 hrs./wk.

ART 146
SCULPTURE II (3 CR)

Prerequisite: ART 145

This continuation of ART 145 will focus on advanced methods and techniques with emphasis on materials, forms and the student's selection of an individual direction with individual material choices. 6 hrs./wk.

ART 148
METAL AND SILVERSMITHING I (3 CR)

This course is a basic introduction to the terms, tools and techniques involved in creating jewelry and other wearables as they relate to the human figure. Casting, fabrication and construction will be explored. 6 hrs./wk.

ART 149
METAL AND SILVERSMITHING II (3 CR)

Prerequisite: ART 148

Students will study advanced casting and construction techniques. Projects should show a higher degree of design and function. 6 hrs./wk.

ART 172
WATERCOLOR PAINTING (3 CR)

This course is an introduction to transparent water media with emphasis on learning fundamental painting skills, the visual elements, composition, visual perception and an awareness of personal expression. 6 hrs./wk.

ART 180
ART HIST:ANCIENT/RENAISSANCE (3 CR)

This course will acquaint students with the arts and ideas of world civilizations from the prehistoric period to the beginning of the Italian Renaissance. The course will examine the aesthetic elements that mark the styles of major periods in two-dimensional , three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts. 3 hrs./wk.

ART 182
ART HISTORY:RENAISSANCE/MODERN (3 CR)

This course will acquaint students with the arts and ideas of Western cultures from the beginning of the Italian Renaissance to the present. The course will examine the aesthetic elements that mark the styles of major periods in two-dimensional, three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts. 3 hrs./wk.

ART 184
ART HISTORY:TWENTIETH CENTURY (3 CR)

This course introduces the student to the arts and ideas of western Europe and the United States from the late 19th century to the present. The course will examine the aesthetic elements that mark the styles of major movements in two-dimensional, three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts. 3 hrs. lecture/wk.

ART 186
ART HISTORY:INTRO TO ASIAN ART (3 CR)
This course will acquaint students with the arts and ideas that arose in India, China and Japan from the prehistoric to the early modern periods. The course will examine the aesthetic elements that mark the styles of major periods in two-dimensional, three-dimensional and architectural works. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts. 3 hrs. lecture/wk.

ART 231
LIFE DRAWING I (3 CR)
Prerequisite: ART 130

This course is an introduction to the basic elements of drawing for students wanting a concentration in drawing the human figure. Students will acquire basic competence in developing drawings involving the human form. 6 hrs./wk.

ART 232
LIFE DRAWING II (3 CR)
Prerequisite: ART 231

This course is an intermediate investigation of drawing from the human form. This class is for students wanting to concentrate on figure drawing beyond Life Drawing l. 6 hrs./wk.

ART 235
STUDIO WORKSHOP I (3 CR)
Prerequisite: ART 131 or ART 136

This course involves advanced problems in painting (or drawing) with emphasis on individual expression based on historical as well as contemporary concerns and approaches in art. 6 hrs./wk.

ART 236
STUDIO WORKSHOP II (3 CR)
Prerequisite: ART 235

This course involves advanced problems in painting (or drawing), above and beyond those experienced in Workshop I, with emphasis on individual expression. 6 hrs./wk.

ART 244
CERAMICS WORKSHOP I (3 CR)
Prerequisites: ART 143 and permission of the academic director

Students will have the opportunity to pursue advanced individual research under the direction of the instructor. Emphasis is on creative expression and development of technical skills as well as the further pursuit of technical studies that have relevance for emerging personal specializations. Students will conduct a personal program of study on one aesthetic issue that emerges as personally significant and present the outcomes in an appropriate and acceptable manner at the close of the semester. Students should initiate and pursue studies in directions that inform and further their individual professional and creative growth, which leads to invention, innovation and refinement of their personal semester work, as agreed upon with the instructor. This course enables further pursuit of technical studies that have relevance for these emerging personal specializations. Skill refinement, three-dimensional imagination, with increased creative expression and creative product generation are anticipated. 6 hrs. lecture, lab/wk.

Astronomy (ASTR)

ASTR 120
FUNDAMENTALS OF ASTRONOMY (3 CR)

This course is a study of the universe from the earth, moon and planets to the stars and the most distant galaxies. Topics include black holes, quasars, the origin of the universe and the possibility of life on other planets. Current astronomical discoveries are discussed in class as they occur. Access to astronomical Web sites is available to students in this course. 3 hrs. lecture/wk.

ASTR 122
ASTRONOMY (4 CR)

This course is a study of the universe from the earth, moon, and planets to the stars and the most distant galaxies. Topics include black holes, quasars, the origin of the universe and the possibility of life on other planets. Current astronomical discoveries are discussed in class as they occur. Access to astronomical Web sites is available to students in this course. 3 hrs. lecture, 2 hrs. lab/wk., 5 nighttime telescope sessions are required.

Automotive Technology (AUTO)

AUTO 121
SMALL ENGINE SERVICE (3 CR)

Upon successful completion of this course, the student should be able to compare and contrast operating principles of two-stroke and four-stroke cycle engines. The student should be able to describe lubricating, cooling, fuel and governor systems; troubleshoot engine problems; inspect engine components; and service the fuel, cooling and exhaust systems. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

AUTO 122
INTRODUCTION TO AUTO GLASS (3 CR)

Upon successful completion of this course, the student should be able to diagnose, service and repair various automotive glass problems, provide professional service to customers, and manage and supervise jobs and employees. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and /or equipment. 2 hrs. lecture, 1 1/2 hrs. lab/wk.

AUTO 123
MOTORCYCLE MAINTENANCE &REPAIR (2 CR)

Upon successful completion of this course, the student should be able to demonstrate the proper use of tools and equipment used in servicing motorcycles. Two-stroke and four-stroke cycle designs will be studied. Overhaul procedures will be demonstrated. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 1 hr. lecture, 3 hrs. lab/wk.

AUTO 125
INTRO TO AUTO SHOP PRACTICES (3 CR)

This is a beginning course that is appropriate for both the automotive major and other interested students. Upon successful completion of this course, the student should be able to develop shop safety habits and become proficient in tire, battery, cooling system, lubrication service and minor electrical diagnosis. This course is an introductory course required for all students in the Automotive Technology program. Emphasis will be placed on learning basic skills needed to enter advanced automotive classes. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

AUTO 128
AUTOMOTIVE PARTS SPECIALIST (2 CR)

Upon successful completion of this course, the student should be able to demonstrate good communication and basic math skills. Ordering and maintaining correct inventory, as well as displaying and selling automotive parts for a fair profit, will be studied. Lectures will be supported by parts specialists in the industry. 2 hrs. lecture/wk.

AUTO 130
DIESEL FUNDAMENTALS (2 CR)

Prerequisite or Corequisite: AUTO 125

Upon successful completion of this course, the student should be able to identify diesel engine components and parts and troubleshoot and service all external components with emphasis on glow plugs, injectors and injector pumps. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 1 hr. lecture, 3hrs. lab/wk.

AUTO 163
AUTO STEERING & SUSPENSION (3 CR)

Prerequisite: AUTO 125 or approval of division administrator

Upon successful completion of this course, the student should be able to describe manual and power steering component operation, summarize construction and operation of front and rear suspension systems, perform four-wheel alignment on current vehicles and service steering and suspension components. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 2hrs. lecture, 3 hrs. lab/wk.

AUTO 165
AUTOMOTIVE ENGINE REPAIR (4 CR)

Corequisite: AUTO 125 or approval of the program administrator

Upon successful completion of this course, the student should be able to demonstrate an understanding of the four-stroke cycle internal combustion engine, calculating compression ratio, piston displacement, horsepower and torque, and correcting internal engine malfunctions. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 6 hrs. lab/wk.

AUTO 167
AUTOMOTIVE BRAKE SYSTEM (2 CR)

Corequisite: AUTO 125 or approval of program administrator

Upon successful completion of this course, the student should be able to summarize disc and drum brake construction and operation, service all brake system components and describe anti-lock brake system services. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 1 hr. lecture, 3 hrs. lab/wk.

AUTO 168
AUTO MANUAL DRIVE TRAINS&AXLES (3 CR)

Corequisite: AUTO 125 or approval of program administrator

Upon successful completion of this course, the student should be able to work safely in the shop; service the typical manual transmission/transaxle; service typical transfer cases; inspect, adjust and replace all clutch components; disassemble, reassemble and set up a differential; and service all front- and rear-wheel drive shaft components. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 2 hr. lecture, 3 hrs. lab/wk.

AUTO 201

ASE CERTIFICATION SEMINAR (1 CR)

This course will prepare students to take any of the eight basic National Institute for Automotive Service Excellence (ASE) automotive certification tests, the Advanced Engine Performance Specialist (L1) test or the three ASE Engine Machinist tests. 1 hr. lecture/wk.

AUTO 206
AUTOMOTIVE RETAILING SALES (3 CR)

Prerequisite: MKT 133 or MKT 134

Upon successful completion of this course, the student should be able to demonstrate the skills necessary for competency in automotive retailing. Student awareness and understanding will be directed toward: an introduction to automotive retailing, past, present and future; professionalism in sales; the components of sales transactions; a structured sales program and product knowledge; customer satisfaction and follow-up; building a clientele; and success through self-improvement. 3 hrs. lecture/wk.

AUTO 210
ADVANCED ENGINE REPAIR (3 CR)

Prerequisite: AUTO 165

Upon successful completion of this course, the student should be able to plan, design, and build a performance engine. The student will also demonstrate knowledge of the relationships between displacement, horsepower and torque; regulations governing performance engines; and current trends in engine modification. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 1hr. lecture, 6 hrs. lab/wk,

AUTO 230
AUTO HEATING& AIR CONDITIONING (3 CR)

Corequisite: AUTO 125 or approval of program administrator

Upon successful completion of this course, the student should be able to operate, service and diagnose automotive heating, ventilation and air conditioning systems. The course will cover the theory and operation of these systems, major components, testing, recycling and other service procedures. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

AUTO 234
AUTOMOTIVE ELECTRICAL SYSTEM (4 CR)

Prerequisite: AUTO 125 or approval of program administrator

Upon successful completion of this course, the student should be able to service starting and charging system components; describe the operation and construction of starters, alternators and controlling devices; describe various lighting systems used in current automotive vehicles; and repair electrical lighting and accessory systems. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

AUTO 250
AUTOMATIC TRANSMIS/TRANSAXLES (4 CR)

Corequisite: AUTO 125 or approval of program administrator

Upon completion of this course, the student should be able to diagnose, service and repair various automatic transmissions and automatic transaxles, including computer-controlled systems. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture/demonstration, 3 hrs. lab/wk.

AUTO 254
AUTOMOTIVE ENGINE PERFORMANCE (5 CR)
Prerequisite: AUTO 165 and AUTO 234

Upon successful completion of this course, the student should be able to describe the operation and construction of automotive fuel system components such as carburetors, fuel pumps, injectors and controlling devices. The student should also be able to describe the operation and construction of ignition circuits to include computer controlled and DIS systems. Finally, students should be able to service all performance systems on the automobile. The student will required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 6 hrs. lab/wk.

AUTO 260
AUTOMOTIVE SERVICE MANAGEMENT (3 CR)
Corequisite: AUTO 254

Upon successful completion of this course, the student should understand the automotive service manager's job. The manager's job includes planning for inevitable change, maintaining flexibility, site planning, customer satisfaction, employee practices, meeting financial goals, and managing time, conflict and stress. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3hrs. lab/wk.

AUTO 261
AUTOMOTIVE SERVICE TECHNIQUES (3 CR)
Corerequisite: AUTO 254

Upon successful completion of this course, the student should become proficient in ordering of parts, writing repair orders, presenting work orders to customers, questioning customers about automobile service problems, answering the telephone, and supervising work loads. Students will also diagnose and perform service work on student and staff vehicles. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 1 hr. lecture, 6 hrs. lab/wk.

AUTO 271
AUTOMOTIVE TECH INTERNSHIP (3 CR)
Prerequisite: Division administrator approval

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, 15 hrs. work min./wk

Biology (BIOL)

BIOL 110
NUTRITION FOR LIFE (2 CR)
Designed for students who wish to apply nutrition information to their lives, this course explores how food selection affects body size, body composition, performance, disease resistance and longevity. Students will analyze the composition of their diets and develop a plan of action to improve their eating behaviors. 2 hrs. lecture/wk.

BIOL 115
NATURAL HISTORY OF KANSAS (3 CR)
Natural History of Kansas describes physical and biological processes that have led to the present Kansas landscape. Physical science topics include geology,

climate patterns and soil formation. Biological science topics include ecology and a survey of the plants and animals of Kansas. The course will consider how the physical and biological environment relates to past and present human resource uses. 3 hrs. lecture/wk. Two 7-hr. Saturday labs required.

BIOL 122
PRINCIPLES OF BIOLOGY (3 CR)

This course is an introduction to selected concepts and principles important to an understanding of how biological systems operate. The importance of scientific methods and processes will be explored. Biological organization will be studied by examining the chemical, cellular, organismal and ecological properties that are unique to life. The diversity and unity of life will be explained in terms of classical and molecular genetics. 3 hrs./wk.

BIOL 123
PRINCIPLES OF BIOLOGY LAB (1 CR)

Prerequisite or corequisite: BIOL 122 or consent of the Assistant Dean

This introductory lab examines basic biological concepts by focusing on the structures and functions of plants and animals. 2 hrs./wk.

BIOL 124
OCEANUS: THE MARINE ENVIRON (3 CR)

This course for beginning students focuses on the marine environment as a unique feature of the planet earth and investigates areas of intense scientific and public concern: the pervasiveness of the ocean and its effect on the earth's weather, its stunning physical size and diversity of contained life forms, its contributions to the physical and historical development of man, its impact on geopolitical and economic matters, and the impact of oceanic pollutants and the potential exploitation of marine resources. 3 hrs. lecture/wk.

BIOL 125
GENERAL BOTANY (5 CR)

This is a survey of the life, growth and structure of plants. Divisions of the plant kingdom will be presented with emphasis on life cycles, anatomy, physiology and ecology of major groups. Students will do microscopic and macroscopic analysis of the major division. 3 hrs. lecture, 4 hrs. lab/wk.

BIOL 127
GENERAL ZOOLOGY (5 CR)

This is a survey of the life, structure, and growth of animals. Students will concentrate on identifying animals by their structural characteristics and looking at the role adaptation plays in anatomical and physiological features. Students will do dissections and microscopic analysis of the major phyla. 3 hrs. lecture, 4 hrs. lab/wk.

BIOL 130
ENVIRONMENTAL SCIENCE (3 CR)

Environmental Science seeks to describe problems and solutions associated with human use of natural resources. Students will study the major physical and biological processes that govern the complex interactions in natural ecosystems. Major course topics include human population growth, resource use and pollution. Practical solutions aimed at sustainability will be identified and examined. This is an introductory, nonscience-major survey course. 3 hrs./wk.

BIOL 131
ENVIRONMENTAL SCIENCE LAB (1 CR)

Prerequisite or corequisite: BIOL 130

In this lab, students will learn ecological principles that are necessary for

understanding and solving environmental problems. Students will sample the local environment for various types of environmental pollution, conduct lab projects and computer simulations, and attend field trips. Field trips may include a visit to a local wastewater treatment plant, a stream ecosystem and a prairie ecosystem. 2 hrs.lab/wk. plus up to three field trips.

BIOL 135
PRINCIP CELL & MOLECULAR BIOL (4 CR)

This is an integrated lecture and laboratory course for biology majors and students planning to take additional courses in biology. Subjects covered include basic biochemistry, cell structure and function, cellular metabolism, Mendelian and molecular genetics, natural selection and evolution, cell physiology and development of plants and animals from the single-celled stage to the embryonic stage. 3 hrs. lecture, 2 hrs. lab/wk.

BIOL 140
HUMAN ANATOMY (4 CR)

Students will study gross and microscopic aspects of cells, tissues and organ systems of human body. They will concentrate on a detailed analysis of the structure of each body system. 3 hrs. lecture, 3 hrs. lab/wk.

BIOL 144
HUMAN ANATOMY AND PHYSIOLOGY (5 CR)

This course provides basic knowledge on human structures and their function. Students will study the relationship of structures to function in the organ systems of the human body. Emphasis will be on the identification of the anatomical features and their functions. This course is integrated lecture and laboratory. 3 hrs. lecture, 4 hrs. lab/wk.

BIOL 145
HUMAN ANAT/PHYSIO DISSECTION (1 CR)

Prerequisites: BIOL 144 and consent of the Assistant Dean

Students will dissect the cat and study the relationship of structures to function in the organ systems of the cat. In this laboratory course, they will also dissect the cow kidney, heart, brain and eye. Students will compare and contrast these structures and functions with the organ systems of the human body. 2 hrs.lab/wk

BIOL 146
GENERAL/HEAD & NECK ANATOMY (4 CR)

Prerequisites: Admission to the Dental Hygiene Program and CHEM 122 and ENGL 121 and SOC 122 (with a minimum 2.0 GPA)

The cells, tissues and organ systems of the body will be examined with emphasis on the head and neck. Discussion and analysis of each body region will be included, as well as embryology of the head and neck. 3 hrs. lecture, 3 hrs. lab/wk.

BIOL 150
BIOLOGY OF ORGANISMS (5 CR)

Prerequisite: BIOL 135 or consent of Assistant Dean

This is a survey of the five kingdoms of life. Monera, fungi, protista, plant and animal kingdoms will be presented, with emphasis on life cycles, anatomy, physiology and ecology of the major groups. 4 hrs. lecture, 3 hrs. lab/wk.

BIOL 160
INTRODUCTION TO BIOTECHNOLOGY (2 CR)

Prerequisites: CHEM 122 Principles of Chemistry or consent of Assistant Dean and Prerequisite or Corequisite: CHEM 135 Cell and Molecular Biology

This course is an introduction to biotechnology, including career exploration, history and applications of DNA/RNA technology, molecular biology, and bioethics. Topics include cloning, DNA, antibodies, gene therapy, plant biotechnology, the human genome project, DNA fingerprinting, genetic testing, diverse products made through biotechnology, and the ethical implications of this technology. The course is intended for those interested in pursuing a career in an industrial, academic, or biomedical research laboratory. 2 hrs. lecture/wk.

BIOL 165
LABORATORY SAFETY (1 CR)

Prerequisite: CHEM 122 or consent of Assistant Dean and Prerequisite or Corequisite: BIOL 135

This course will emphasize laboratory safety and procedures. Additionally, regulations that govern the biotechnology laboratory will be discussed. Biological, chemical and radiation safety will all be handled through lectures, videotapes, demonstrations and field trips. There will also be exposure to good manufacturing practices (GMP), quality assurance and control procedures (QA/QC), and OSHA and FDA regulations. 1 hr. lecture/wk.

BIOL 205
GENERAL GENETICS (4 CR)

Prerequisite: BIOL 122 or the equivalent introductory college-level biology course.

This introductory course emphasizes human heredity using concepts from classical and modern genetics. Themes of advancing technologies and bioethical issues are interwoven in the basic background fabric of the course. 3 hrs. lecture, 2 hrs. lab/wk.

BIOL 225
HUMAN PHYSIOLOGY (4 CR)

Prerequisites: BIOL 140 or BIOL 146 and CHEM 122

This is an introduction to the dynamic functions of the human organism from the chemical and molecular mechanisms that sustain cellular processes through the control systems responsible for homeostasis and the influence of these systems on the cellular function of organ and systems operation. Laboratory investigation using selected biochemical and physiological preparations allows correlation of theory with experimental observations. 3 hrs. lecture, 3 hrs. lab/wk.

BIOL 227
HUMAN PATHOPHYSIOLOGY (4 CR)

Prerequisites: BIOL 144 or BIOL 225

This introduction to the physiology of disease covers common disorders of the body from the cellular to the systemic level. Topics include causes, symptoms, diagnostic tests and treatments of disease. 4 hrs. lecture/wk.

BIOL 230
MICROBIOLOGY (3 CR)

Prerequisite CHEM 122 or one year of high school chemistry

This is a general introductory course in microbiology. It provides a background in many areas of microbiology physiology, antimicrobial agents, immunology and host-parasite relationship of microorganisms will be studied, with an emphasis on bacteria. 3 hrs./wk.

BIOL 231
MICROBIOLOGY LAB (2 CR)

BIOL 231 students must be currently enrolled in BIOL 230 or have successfully completed BIOL 230 within the last three years.

Students will learn aseptic techniques and apply them in the isolation of pure cultures of bacteria. Students will also perform various staining techniques and

chemical tests to identify these bacteria. The response of bacteria to changes in environmental conditions will also be examined. Various life stages of medically important parasites will also be observed. 4 hrs./wk.

BIOL 235
GENERAL NUTRITION (3 CR)

Corequisite: BIOL 225 or the equivalent

This introductory course provides a basic knowledge of human nutrition. Students will learn the sources and functions of the various nutrients. They will also explore the interaction of diet, disease prevention and treatment. Through the use of a computerized nutrition nutritional deficiencies and excesses. 3 hrs./wk.

BIOL 240
GENERAL PHARMACOLOGY (3 CR)

Prerequisite: BIOL 225

This course provides a basic understanding of the science of drugs-how they work and what they do. Students will study various drug concepts including mechanism of action, pharmacologic class, pharmaco-kinetics, pharmacodynamics and clinical implications. 3hrs. lecture/wk. Spring.

BIOL 250
ECOLOGY (4 CR)

Prerequisites: BIOL 122 and BIOL 123 or BIOL 130 and BIOL 131 or equivalent courses or consent of the assistant dean

This course will teach continuing science students basic ecological theories that are accepted and used by the professional ecological community. Laboratory exercises will test ecological theories by having students develop hypotheses, design experiments, collect and analyze data by using statistics that include T-tests and Kruskal-Wallis tests, and write scientifically formatted reports. 3 hrs. lecture, 3 hrs. lab/wk.

BIOL 260
BIOTECHNOLOGY METHODS (5 CR)

Prerequisite: BIOL 160 and BIOL 165 Prerequisite or corequisite: BIOL 230 or consent of the assistant dean

This course is an introduction to the theory and This course is an introduction to the theory and laboratory techniques in molecular biology, protein biochemistry and immunology with an emphasis on gene expression and regulation, recombinant DNA, RNA transcription, and protein translation. Laboratory emphasis will be on molecular biological techniques utilized in modern research and industrial laboratories. Techniques include growth and maintenance of E. coli, gene cloning, DNA and protein electrophoresis protein purification and enzymatic and immunology assays. Lecture and laboratory exercises on the principles and practices of initiation, cultivation, maintenance, preservation of cell culture lines and applications will also be covered. 3 hrs lecture, 3 hrs. lab/wk.

BIOL 265
BIOTECHNOLOGY INTERNSHIP (4 CR)

Prerequisites: BIOL 160 and BIOL 165 and BIOL 260

The internship will provide advanced students the opportunity to develop job and career-related skills while in a work setting. Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The work will be developed cooperatively with academic, industrial and private institutional biotechnology laboratories. 20 lab hrs./wk.

Bus Entrep-See Entrepreneurshi (BUSE)

BUSE 131
FINANCIAL MGT FOR SM BUSINESS (2 CR)

Prerequisite: ACCT 111 or ACCT 121

Upon successful completion of this course, the student should be able to identify and evaluate the various sources available for funding a small business; demonstrate an understanding of financial terminology; read, prepare and analyze a financial statements; and write a loan proposal. In addition, the student should be able to explain the importance of working capital and cash management. The student should also be able to identify financing needs, establish credit policies, and prepare sales forecasts. This course is required for a Vocational Certificate and Associate of Applied Science degree in Business Entrepreneurship. 2 hrs./wk.

BUSE 142
FAST TRAC BUSINESS PLAN (3 CR)

Upon successful completion of this course, the student will be able to evaluate a business concept and write a sound business plan. In the process of doing so, students will be able to assess the strengths and weaknesses of a business concept; collect, analyze and organize market research data into a marketing plan; and prepare the financial projections for their business concept. In addition, students will be able to identify and evaluate various resources available for funding small businesses. The course is required for the business plan certificate, the vocational certificate in business entrepreneurship and the associate of applied science degree in business entrepreneurship. 3 hrs. lecture/wk.

BUSE 160
LEGAL ISSUES FOR SM BUSINESS (2 CR)

Upon successful completion of this course, the student should be able to identify the forms of business ownership and the legal and tax implications for each. In addition, the student should be able to explain laws covering issues such as personnel, contracts and protection of intellectual property. The student should also be able to explain the reporting requirements for local, state and federal agencies. This course is required for the Associate of Applied Science degree and the Vocational Certificate in Business. 2 hrs./wk.

BUSE 180
OPPORTUNITY ANALYSIS (2 CR)

Upon successful completion of this course, the student should be able to assess the current economic, social and political climate for small businesses. In addition, the student should be able to explain how demographic, technological and social changes create opportunities for small business ventures. This course is required for the Associate of Applied Science degree in Business Entrepreneurship. 2 hrs./wk.

BUSE 190
SMALL BUSINESS ANALYSIS (2 CR)

Prerequisite: BUSE 131 and BUSE 160 and BUS 230 or permission of division administrator

Upon successful completion of this capstone course, the student should be able to identify problems that frequently arise in small business and use problem-solving skills to formulate solutions. In addition, the student should be able to apply the knowledge of business concepts and techniques in the analysis of cases and actual business situations. This course is required for an Associate of Applied Science degree and a Vocational Certificate in Business Entrepreneurship. 2 hrs./wk.

BUSE 210
ENTREPRENEURSHIP INTERNSHIP I (1 CR)

Prerequisite: BUSE 140

Upon the successful completion of this course, the student should be able to

apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. A minimum of 240 hours of on-the-job training is required. This course is required for an Associate of Applied Science degree in Business Entrepreneurship. Either BUSE 210, Entrepreneurship Internship I, or BUSE 215 Entrepreneurship Internship II is required for a Vocational Certificate in Business Entrepreneurship.

BUSE 215
ENTREPRENEURSHIP INTERNSHIP II (1 CR)

Prerequisite: BUSE 140

Upon the successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. A minimum of 240 hours of on-the-job training is required. This course is required for an Associate of Applied Science degree in Business Entrepreneurship. Either BUSE 210, Entrepreneurship Internship I, or BUSE 215, Entrepreneurship Internship II is required for a Vocational Certificate in Business Entrepreneurship.

Business (BUS)

BUS 120
MANAGEMENT ATTITUDES & MOTIVAT (3 CR)

Upon successful completion of this course, the student should be able to assess personal strengths and weaknesses and set goals for personal and professional life, define communication and listening skills, analyze human relations problems, apply problem-solving strategies to human relations issues in the workplace, and define and compare management styles. Class meets for 48 hrs.

BUS 121
INTRODUCTION TO BUSINESS (3 CR)

Upon successful completion of this course, the student should be able to explain the basic principles of the American free enterprise economic system. In addition, the student should be able to explain the fundamentals of starting a business and the interrelationship among the four functional areas: accounting, finance, management and marketing. 3 hrs./wk.

BUS 122
INTRODUCTION TO LAW (3 CR)

Upon successful completion of this course, the student should be able to explain the major substantive and procedural aspects of law. This course is available to students with a general interest in the law, and is required for students seeking admission to the paralegal program. 3 hrs./wk.

BUS 123
PERSONAL FINANCE (3 CR)

Upon successful completion of this course, the student should be able to define the role of a consumer in the economy; develop a basic financial plan; apply budgeting procedures in a daily and monthly spending plan; calculate principal and interest; define the types of consumer credit; identify the types of housing mortgages; and explain the important considerations in buying, selling and renting. In addition, the student should be able to calculate individual insurance needs in the areas of life insurance, health insurance, property and liability insurance, automobile insurance and other types of special insurance, and be able to explain employee and retirement benefits, including tax-sheltered plans. 3 hrs./wk.

BUS 140
PRINCIPLES OF SUPERVISION (3 CR)

Upon successful completion of this course, the student should be able to define the supervisor's role within a company and identify the skills necessary to successfully fulfill that role. In addition, the student should be able to determine the supervisor's role in supervising employees on an individual basis and as a group. The student should also be able to apply the principles of supervision in simulated work situations. 3 hrs./wk.

BUS 141
PRINCIPLES OF MANAGEMENT (3 CR)

Upon successful completion of this course, the student should be able to state the basic functions of management, explain the nature of organizations and organizational theories and types, explain the importance of effective communication within the organizational structure, develop and define the techniques for directing and motivating employees, explain the effects of change on an organization, and develop techniques for coping with those effects. In addition, the student should be able to explain and discuss the application of business ethics in managerial decision making. 3 hrs./wk.

BUS 145
SMALL BUSINESS MANAGEMENT (3 CR)

Upon successful completion of this course, the student should be able to demonstrate an understanding of management techniques vital to small business. In addition, the student should be able to apply decision making skills in the areas of business start-up choosing the form of ownership, marketing, financial planning and managing the small business.

BUS 150
BUSINESS COMMUNICATIONS (3 CR)

Prerequisite: ENGL 121

Upon successful completion of this course, the student should be able to explain the role of communication in the business environment and identify the most effective methods for creating, sending and receiving messages. In addition, the student should be able to use effective oral and written communication skills in business; write and evaluate business documents, including letters, memos, and reports using the principles of correct style, organization and format; and prepare an effective oral business presentation. 3 hrs./wk.

BUS 215
SAVINGS AND INVESTMENTS (3 CR)

Upon successful completion of this course, the student should be able to define, analyze and evaluate types of savings instruments and other investments. In addition, the student should be able to determine which instruments are desirable for a personal financial plan. The student should also be able to demonstrate an understanding of basic financial-planning concepts and tax-planning procedures. 3 hrs./wk.

BUS 225
HUMAN RELATIONS (3 CR)

Upon successful completion of this course, the student should be able to evaluate the impact of human relations as it relates to the social system, technical system and administrative system of a work environment. In addition, the student should be able to analyze these systems and their effects on individual group and organizational performance. 3 hrs./wk.

BUS 230
MARKETING (3 CR)

Upon successful completion of this course, the student should be able to explain the concepts of production, consumption and distribution in relation to a free enterprise economy; list the basic channels of distribution available to the manufacturer of consumer and industrial products; explain and compare the

distribution functions of the manufacturer, wholesale and retailer; and state the procedures necessary to develop a total marketing plan for a given product, service or product line. In addition, the student should be able to discuss the fundamental principles of consumer behavior in the buying process and apply those principles to target market strategies. 3 hrs./wk.

BUS 235
INTRO INTERNATIONAL BUSINESS (3 CR)

This course is designed to introduce the student to the global economy. Differences in political, economic and cultural forces within countries will be analyzed and national competitiveness assessed. Cross-border trade and investment and the global monetary system will be introduced and analyzed. Competition and a firm's international business strategy in the global marketplace will be examined. Ethical issues in international business will also be discussed. 3 hrs./wk.

BUS 240
LEGAL ENVIRON INTERN BUSINESS (3 CR)

Prerequisite: BUS 235 and BUS 261 and BUS 263

This course provides an introduction to the legal aspects of contracts for international sale of goods. Topics include multinational enterprises, sovereignty, international finance, international transportation, international marketing, protection of intellectual property, international dispute resolution, negotiation and diplomacy. 3 hrs. lecture/wk.

BUS 243
HUMAN RESOURCE MANAGEMENT (3 CR)

Upon successful completion of this course, the student should be able to state the principles of human resource management; describe the human resource function as an integral part of management; differentiate between roles of the personnel and line manager in the management of human resources; define and evaluate strategic planning, recruitment, selection and training; define the primary methods of human resource development; employ methods of employer appraisal; and state the major components and coverages of the Equal Employment Opportunity Act and other personnel/human resource-related laws. 3 hrs./wk.

BUS 250
INTRODUCTION/CORPORATE FINANCE (3 CR)

Upon successful completion of the course, the student should be able to explain the nature and role of finance in the U.S. economy and demonstrate an understanding of the concepts of corporate finance and the sources and types of corporate financing. Additionally, the student should be able to explain and accurately compute a firm's cost of capital and demonstrate an understanding of the capital budgeting process and how to manage and finance current assets. 3 hrs. lecture/wk.

BUS 261
BUSINESS LAW I (3 CR)

This course is designed to introduce the students to the American legal system. Principles of legal ethics in business will be introduced. Principles of common law of contracts will be discussed. Sections of Uniform Commercial Code as applied to the law of sales and law of negotiable instruments will be introduced. 3 hrs./wk.

BUS 263
BUSINESS LAW II (3 CR)

Prerequisite: BUS 261

A continuation of Business Law I, this course will introduce the student to the principles of Uniform Commercial Code as applied to secured transactions. The law of bankruptcy, principles of agency and business organizations such as partnerships, limited partnerships, joint ventures, corporations, and sole

proprietorships will be discussed. Principles of real property, personal property, bailments, estate and trusts will be introduced. 3 hrs./wk.

Business Logistics Management (KSCL)

KSCL 210

LOGISTICS MANAGEMENT (3 CR)

Logistics management is an integrated system approach involving a variety of environments within a global marketplace. The course explores the logistic system from inbound movement of material and freight into the organization through physical distribution of the completed product to the consumer. Hands-on applications, activities and simulations are part of the course. The Council of Logistics Management's guidelines will be emphasized.

KSCL 211

OPERATIONS MANAGEMENT (3 CR)

This course covers the central role and importance of the operations function in both service and product organizations. Strategy, design, scheduling, materials handling, inventory, production, MRP and distribution are covered.

KSCL 212

TRANSPORT OPERATIO/ MANAGEMENT (3 CR)

This course covers the significance of an integrated, organized transportation system to a market-driven economy. The development of the transportation system of the United States from both historic and economic perspectives is included.

KSCL 213

WAREHOUSNG & DISTRIBUTION CTRS (3 CR)

Warehousing and Distribution Centers is an integrated systems approach involving a variety of environments within a global marketplace. The course covers the organization and operations of warehouses and distribution centers. The major components are warehousing and distribution center paradigms, system design, locations, technology and financial dimensions.

Business Office Technology (BOT)

BOT 101
COMPUTERIZED KEYBOARDING (1 CR)

Upon successful completion of this course, the student should be able to operate a computer keyboard by touch to enter data with speed and accuracy. 1 hr./wk.

BOT 102
BUSINESS ENGLISH (1 CR)

Upon successful completion of this course, the student should be able to demonstrate the basic rules of English, to develop correct sentence structure, and to use accurate English grammer and mechanics when writitng documents. Students also will be abe to proofread written work using standard proofreading symbols. 1 hr./wk.

BOT 103
BUSINESS ENGLISH (3 CR)

Upon successful completion of this course, the student should be able to demonstrate the basic rules of English, develop correct sentence structure and use accurate English grammar and mechanics when writing documents. Students also will be able to proofread written work using standard proofreading symbols. 3 hrs. lecture/wk.

BOT 105
KEYBOARDING/FORMATTING I (3 CR)

Upon successful completion of this course, the student should be able to develop speed and accuracy by learning to use the alphabetic, numeric and symbol keys by touch; identify and operate the basic machine parts and special purpose keys; and format and type personal correspondence and business documents - letters, reports, tables and memos. Microsoft Word 2002 will be used in this class to complete and format documents. 3 hrs./wk.

BOT 110
SKILLBUILDING I (1 CR)

Prerequisite: BOT 105 or equivalent

Upon successful completion of this course, the student should be able to use a diagnostic approach to develop typing speed and accuracy. Specific problems will be identified, and the student should be able to complete specialized drills and activities tailored to the student's own typing needs to improve or eliminate deficiencies. 1 hr./wk.

BOT 115
ELECTRONIC CALCULATORS (1 CR)

Upon successful completion of this course, the student should be able to review basic arithmetic, operate the electronic calculator by touch to build speed and accuracy, use basic calculator functions and operating controls, and solve business application problems. 1 hr./wk.

BOT 118
SKILLBUILDING II (1 CR)

Prerequisite: BOT 110

Upon successful completion of this course, the student should further develop speed and accuracy. The student should be able to improve keyboard skills through diagnostic evaluation and by completing individualized drills and activities. 1 hr. lecture/wk.

BOT 120
MACHINE TRANSCRIPTION (1 CR)

Prerequisite: BOT 105 or equivalent

Upon successful completion of this course, the student should be proficient in transcribing a variety of business documents from machine transcription. Emphasis is placed on operation of transcription equipment; development of speed and accuracy in transcription; and developing English, proofreading and formatting skills. 1 hr./wk.

BOT 122
MEDICAL KEYBOARDING (1 CR)

Prerequisite: BOT 105

Upon successful completion of this course, the student should be able to develop keyboarding speed and accuracy in medical formats. The student should also be able to improve keyboard skills by completing drills and activities pertaining to the transcription of medical reports. 1 hr. lecture/wk.

BOT 125
DOCUMENT FORMATTING (1 CR)

Prerequisite: BOT 155

Upon successful completion of this course, the student should be able to type business letters with special features, memorandums, reports, tables and a variety of administrative documents. The student should also be able to use Microsoft Word 2002 to complete these activities. 1 hr./wk.

BOT 130
OFFICE SYSTEMS CONCEPTS (3 CR)

Upon successful completion of this course, the student should be able to understand and apply technological factors of contemporary office systems. Implementation of office automation concepts will be examined as they relate to people, technology and organizations. These concepts will be applied to organizational and strategic planning to enhance productivity in the office. 3 hrs./wk.

BOT 150
RECORDS MANAGEMENT (3 CR)

Methods for developing and controlling an office records management program will be discussed. Selection of equipment for active and inactive records will be covered, along with procedures for document, card and special records; microrecords; mechanized and automated records; and records storage, retention and transfer. Upon successful completion of this course, the student should be able to file documents using alphabetic, subject, consecutive numeric, terminal digit numeric and geographic filing systems using requisition charge out and transfer procedures. The student should be able to create a computer database for records management; enter, modify and delete records; print reports; and determine disposition of records filed alphabetically, numerically, by subject and geographically. The course will cover the identification of evaluation methods and standards for both staff and programs in a records management department. 3 hrs./wk.

BOT 155
WORD PROCESSING APPLICATIONS I (2 CR)

Prerequisite: BOT 105 or equivalent

Upon successful completion of this course, the student should be able to demonstrate skill in creating, saving, opening, closing, printing and editing documents. The student should be able to use beginning and intermediate features of Microsoft Word 2002. The student should be able to demonstrate file maintenance procedures . 2 hrs. lecture/demonstration/wk.

BOT 160
LEGAL TRANSCRIPTION (3 CR)

Prerequisite: BOT 155 or equivalent

Upon successful completion of this course, the student should be able to demonstrate skill in spelling, defining, pronouncing and using legal terms in proper context. The student should also be able to use legal reference resources and transcribe legal documents from dictation using proper formatting rules. 3 hrs./wk.

BOT 165
MEDICAL TRANSCRIPTION (3 CR)

Prerequisites: AAC 130 and BOT 155 or equivalent

Upon successful completion of this course, the student should be able to transcribe medical reports using proper formats and transcription rules. These reports concern in-patients with a specific medical problem. Reports include history and physical examinations, radiology reports, operative reports, pathology reports, requests for consultation, death summaries, discharge summaries and autopsy reports. Students should be able to spell, define, pronounce and use medical terms in proper context and be able to use medical reference books. 3 hrs./wk.

BOT 170
MEDICAL CODING AND BILLING (3 CR)

Prerequisite: AAC 130

This course is designed to give the student an overview of the medical insurance billing process. This includes becoming acquainted with ICD-9, HCPCS and CPT procedural coding systems as well as Blue Cross/Blue Shield, Medicaid, Medicare

and Champus/Champva programs. Students will be given hands-on coding advice for optimal insurance reimbursement. 3 hrs. lecture/wk.

BOT 175
CONFLICT IN THE WORKPLACE (1 CR)

Upon successful completion of this course, the student should be able to develop the knowledge, skills, process and understanding of good working relationships in an office environment. The student will also be able to recognize and understand behavior patterns and what work-related events might trigger workplace conflict. Strategies will be developed for dealing with conflict and difficult people. 1 hr. lecture/wk.

BOT 180
BUSINESS SPREADSHEET APPLICATI (1 CR)

Prerequisite: CPCA 110 or extensive experience using Windows-based spreadsheets

Upon successful completion of this course, the student should be able to demonstrate competencies in using advanced formatting techniques, advanced features and advanced functions of Microsoft Excel 2002. The following topics will be covered: working with templates, workbooks and lists; using Excel's analysis tools; managing and auditing worksheets; collaborating with workgroups; creating and editing macros; and importing and exporting data. 1 hr. lecture/wk.

BOT 185
BUSINESS DATABASE APPLICATIONS (1 CR)

Prerequisite: CPCA 114 or extensive experience using Windows-based databases

Upon successful completion of this course, the student should be able to demonstrate database development skills by effectively identifying the types of projects that should be developed using Microsoft Access 2002 rather than a spreadsheet; build tables that can be related to each other in order to eliminate data entry duplication; customize forms and reports; create basic and advance queries; and define relational integrity between tables. The student should also be able to create basic and advanced queries with single and multiple tables using Boolean logic. The student should be able to identify and implement methods of troubleshooting and explain ways of getting additional help. 1 hr. lecture/wk.

BOT 205
PROFESSIONAL IMAGE DEVELOPMENT (1 CR)

Upon successful completion of this course, the student should be able to develop work habits and self-management skills that will affect performance on the job by reducing stress, conflict and miscommunication. 1 hr. lecture/wk.

BOT 210
WORKING IN TEAMS (1 CR)

Upon successful completion of this course, the student should possess the necessary skills to work in teams. Students should also be able assess and adjust their perceptions of how they should communicate within a team environment and to assess their own workplace expectations, values and methods of communicating as a basis for understanding how to improve communication with others to achieve a common goal. 1 hr. lecture/wk.

BOT 220
PHARMACOLOGY TERMINOLOGY (2 CR)

Prerequisite: AAC 130

Upon successful completion of this course, the student should be able to use pharmacological terminology in an appropriate context. This course includes an investigation of medication actions, dosage forms, routes of administration and uses. The course emphasizes the terminology necessary for transcription of

medical reports. 2 hrs. lecture/wk.

BOT 255
WORD PROCESS APPLICA II (2 CR)

Prerequisite(s): BOT 155 or extensive experience using the same software with approval of the program facilitator

Upon successful completion of this course, the student should be able to demonstrate word processing skills using such features as macros, styles, tables of contents and indexes, graphics, master and subdocuments, and other advanced features of Microsoft Word 2002. 2 hrs. lecture-demonstration/wk.

BOT 260
DESKTOP PUBLISHING FOR OFFICE (3 CR)

Prerequisite: BOT 155 or the equivalent

Upon successful completion of this course, the student should be able to use desktop publishing skills using PageMaker 7.0 to produce publications such as fliers, newsletters, brochures, operating manuals, price lists and bulletins. 3 hrs. lecture/demonstration/wk.

BOT 265
COMPUTERIZED OFFICE APPLIC (3 CR)

Prerequisites: CPCA 110 and CPCA 114 and CPCA 141 and BOT 255 and BOT 130. This capstone course should be taken near the end of the degree or certificate program.

Upon successful completion of this course, the student will be able to use the basic features of word processing, database, spreadsheet and presentation applications. The student will also use advanced features to complete simulated office applications and to perform multitasking projects. 3 hrs./wk.

BOT 270
ADVANCED MEDICAL TRANSCRIPTION (3 CR)

Prerequisite: BOT 165

Upon successful completion of this course, the student will develop medical transcription skills with emphasis on additional speed and accuracy. Students will apply language skills, decision-making skills and "common- sense" skills during the transcription process. Students will become familiar with the medical transcription profession, employment opportunities, the important role of the medical transcriptionist in the health care team, and personal attributes, knowledge and skills required to produce error-free documents according to the employer's and AAMT standards. 3 hrs. lecture/wk.

BOT 275
OFFICE INTERNSHIP I (1 CR)

Prerequisite: Admission to the Office Systems Technology Program

The student should be able to gain work experience in an approved training station under instructional supervision in Administrative Assistant, Medical, Legal, or Certificate Programs. The course will provide practical experience in the use of skills acquired in Business Office Technolgy specialty courses. The internship will require a minimum of 185 hours of job training.

BOT 280
OFFICE INTERNSHIP II (1 CR)

Prerequisite: BOT 275

The student should be able to gain work experience in an approved training station under instructional supervision in Administrative Assistant, Medical, Legal, or Certificate Programs. The course will provide practical experience using skills acquired in Business Office Technology courses. The internship will require a minimum of 185 hours per semester job training.

Chemistry (CHEM)

CHEM 120
CHEMISTRY IN SOCIETY (4 CR)

This course is designed for non-science majors who seek an understanding of the concepts of chemistry. Historical foundations of chemistry, applications to society and daily life, controversies of contemporary concern and current research topics are explored. Inquiry-based laboratory experiments will illustrate chemical principles. 3 hrs. lecture, 2 hrs. lab/wk.

CHEM 122
PRINCIPLES OF CHEMISTRY (5 CR)

This course is an introduction to the fundamentals of chemistry, with emphasis on general concepts of inorganic chemistry and sufficient study of organic chemistry to introduce the student to biochemistry. The student will learn basic definitions and theories of chemistry, solve numerical problems related to chemical principles and apply chemical concepts in laboratory work. 4 hrs. lecture, 3 hrs. lab/wk.

CHEM 124
GENERAL CHEMISTRY I LECTURE (4 CR)
Prerequisite or corequisite: MATH 171 Corequisite: CHEM 125

Students will relate atomic structure to chemical systems, calculate the amount of material used in chemical reactions, use the periodic table as an aid to understanding chemical systems and interpret chemical reactions. 4 hrs./wk.

CHEM 125
GENERAL CHEMISTRY I LAB (1 CR)
Prerequisite or Corequisite: CHEM 124 Students who withdraw from GENERAl CHEMISTRY I LECTURE must also withdraw from the corresponding laboratory GENERAL CHEMISTRY I LABORATORY Students may not withdraw from the laboratory course GENERAL CHEMISTRY I LABORATORY without withdrawing from CHEMISTRY I LECTURE.

Experiments of a qualitative and quantitative nature that support topics from General Chemistry I Lecture will be carried out. 3 hrs./wk.

CHEM 131
GENERAL CHEMISTRY II LECTURE (4 CR)
Prerequisite: CHEM 124 and CHEM 125 Corequisite: CHEM 132

Chemistry 131 is the second semester of a two-semester course in general chemistry in which the student will develop a working knowledge of some of the fundamental concepts and quantitative relationships involved in the study of chemical reactivity. Topics include solutions, chemical kinetics, chemical equilibrium, acid-base chemistry, chemical thermodynamics, electrochemistry, and nuclear chemistry. 4 hrs./wk.

CHEM 132
GENERAL CHEMISTRY II LAB (1 CR)
Prerequisite: CHEM 124 and CHEM 125 Corequisite: CHEM 131

The laboratory consists of qualitative and quantitative experiments designed to parallel and support General Chemistry II Lecture. 3 hrs./wk.

CHEM 140
PRIN OF ORGANIC CHEMISTRY (5 CR)
Prerequisite: CHEM 122 or CHEM 131 and CHEM 132

This course covers nomenclature, theory and applications of basic organic chemistry and biochemistry in the area of carbohydrates, lipids, proteins and

enzymes. The lab activities reinforce the topics presented in the lecture. 4 hrs. lecture, 3 hrs. lab/wk.

CHEM 220
ORGANIC CHEMISTRY I (5 CR)

Prerequisite: CHEM 131 and CHEM 132

Organic Chemistry I is an introduction to the theories and principles of the chemistry carbon compounds. The student will develop an understanding of organic chemistry, which will be useful in the studies of chemistry and related fields such as medicine, engineering and pharmacy. The laboratory is supportive in nature, with a strong emphasis on developing laboratory techniques. Representative compounds will be prepared and used to introduce the student to instrumental analysis. 3 hrs. lecture, 6 hrs. lab/wk.

CHEM 221
ORGANIC CHEMISTRY II (5 CR)

Prerequisite: CHEM 220

Organic Chemistry II is a continuation of Organic Chemistry I, the nomenclature, principles and theories of organic chemistry, with emphasis on electronic theories and reaction mechanisms. Laboratory is supportive in nature with emphasis on developing laboratory techniques and preparation of representative compounds. Organic Chemistry II completes the study of organic chemistry designed to prepare the student for continued work in chemistry and related fields. 3 hrs. lecture, 6 hrs. lab/wk.

CHEM 250
BIOCHEMISTRY (4 CR)

Prerequisite: CHEM 131 and CHEM 132 and CHEM 140 or CHEM 220

This course is an introduction to the major topics in biochemistry. Topics include the major classes of biological molecules, such as proteins, lipids and nucleic acid; an overview of the major metabolic pathways; and developments and topics relating to molecular biology. 4 hrs. lecture/wk.

CHEM 251
BIOCHEMISTRY LABORATORY (2 CR)

Prerequisite: CHEM 131 and CHEM 132 and CHEM 140 or CHEM 220
Corequisite: CHEM 250

The laboratory will consist of qualitative and quantitative experiments using biological molecules. Particular emphasis upon biochemistry laboratory techniques, including chromotography and spectroscopy, will be used. 3 hrs. lab, 1 hr. recitation/wk.

Civil Engineering Technology (CET)

CET 105
CONSTRUCTION METHODS (3 CR)

This course introduces the student to the terms, methods, procedures, sequences of operation, and types of construction and planning in civil and building construction. 3 hrs./wk.

CET 120
ENGINEERED PLUMBING SYSTEMS I (3 CR)

Upon successful completion of this course, the student should be able to use codes and engineering principles and design engineering practices to analyze and design basic plumbing systems. Topics covered include codes, materials, hangers, supports, and expansion and contraction. Plumbing systems covered include fuel gas, domestic water and soil waste/vent. The student should also be

able to interpret drawings related to plumbing technology. 3 hrs. lecture/wk.

CET 122
ENGINEERED PLUMBING SYSTEMS II (3 CR)
Upon successful completion of this course, the student should be able to describe storm water, industrial wastes, compressed air and irrigation and fire sprinkler systems. Topics include water treatment, noise control, decorative pools, pumps, estimating, specifications and field inspection. 3 hrs. lecture/wk.

CET 125
CONSTRUCTION SPECIFICATIONS (2 CR)
Prerequisite: CET 105 or equivalent

Upon successful completion of this course, the student will be able to describe the phases of a project, identify the bidding requirements, explain contractual relationships between parties, categorize the drawings, write specifications, list warranties and explain contract modifications. 2 hrs. lecture/wk.

CET 127
CONSTRUCTION ESTIMATING (3 CR)
Prerequisite: DRAF 129 or competence in reading building drawings

This course introduces the student to the basic principles of construction estimating. Topics covered include estimating quantities of material from drawings and using reference books, tables and the C.S.I. format. Students will use industry-standard software for construction estimating. 2 hrs. lecture and 3 hrs. lab/ wk.

CET 129
CONSTRUCTION MANAGEMENT (3 CR)
This course is intended for students interested in learning management principles for construction projects. Upon successful completion of this course, the student should be able to perform many processes associated with construction projects and complete forms typically used in project management. Topics include contract documents, scheduling, job costs and management issues. Project management software will be used to schedule and track project resources and progress. 2 hrs. lecture, 3 hrs. lab/wk.

CET 133
CONCRETE TESTING (2 CR)
This course covers the principles of making and testing concrete. The emphasis will be on allowing concrete to reach the highest level of durability through proper mix design, placing and finishing techniques, and curing methods. This course will help prepare the student for ACI National Certification exam. 1.5 hrs. lecture, 1 hrs.lab/wk.

CET 140
CIVIL ENGINEERING MATERIALS (3 CR)
Corequisite: MATH 133

Upon successful completion of this course, the student will be able to analyze materials commonly used in civil engineering construction projects. Common properties of soil, concrete and asphalt will be studied for classification as engineering materials. Students will learn to perform typical materials tests in accordance with ASTM guidelines. 2 hrs. lecture, 3 hrs. lab/wk.

CET 211
TECHNICAL STATICS & DESIGN (3 CR)
Prerequisite: MATH 134 or MATH 172 or MATH 173 or MATH 241

Upon successful completion of this course, the student should be able to evaluate

and design force systems in equilibrium. Topics include truss analysis, stress and strain, shear, loading conditions, steel member selection, and connection design. Computer applications are included. 3 hrs. lecture/wk.

CET 270
FLUID MECHANICS (3 CR)

Prerequisites: MATH 172 or MATH 134

Upon successful completion of this course, the student should be able to analyze fluid systems using the fundamental properties of pressure, hydrostatic force, buoyancy, flow in pipes, open channel flow and hydrology. The student should also be able to solve practical problems related to engineering technology. Computer applications will be included. 3 hrs. lecture/wk.

Communication Design (CD)

CD 120
INTROD TO COMMUNICATION DESIGN (3 CR)

This course is designed to acquaint the student with the various aspects of the communication design field. Topics include the ways in which visual messages are used in society, the skills needed by a communication designer and the potential areas of specialization and employment. Emphasis will be on assisting the student to make an informed decision about communication design as a career. 3 hrs. lecture/wk.

CD 130
DRAWING AND MEDIA METHODS 1 (3 CR)

Prerequisites: ART 124 and CD 120

This course will provide instruction in perceptual techniques, perspective theory and drawing process methods that relate to the visual analysis of the three-dimensional forms drawn from life. Focus will be on the application of theory, processes and techniques to attain structural accuracy and the illusion of three-dimensional form on a two-dimensional surface. 6 hrs. lecture and studio/wk.

CD 131
DRAWING AND MEDIA METHODS 2 (3 CR)

Prerequisite: CD 130

This course is a continuation of Drawing and Media Methods I, with emphasis on the creative application of perspective theory, perceptual skill and drawing methods. Drawing methods and rendering techniques will be applied to visual problem-solving processes and the communication of design concepts. 6 hrs. lecture and studio/wk.

CD 132
TYPOGRAPHY (3 CR)

Prerequisites: ART 124 and CD 120 and CDTP 131

This course will provide instruction in the basic principles of contemporary typographic design. Information concerning typography, from traditional letterpress through digital type design and typesetting, will be included. The course content will emphasize effective methods of communicating to a mass audience through the printed letter, word, line and page. 6 hrs. lecture and studio/wk.

CD 134
LAYOUT DESIGN (3 CR)

Prerequisite: CD 132

This course will provide a basic study of layout elements. Students will acquire

the skills necessary to produce layouts. These skills include photographic indication techniques, comp lettering, advertising and editorial grid systems, and electronic page design. This course is typically offered in the spring semester only. 6 hrs. lecture and studio/wk.

CD 140
TECHNICAL PROCESSES (3 CR)

Prerequisite: PHOT 121

This course covers digital prepress applications, scanning, image manipulation and color output devices. The transition from conventional to digital production will be explored. Analysis of output and file management and the understanding of proofing systems will be covered. Proper usage of peripheral equipment will be emphasized. 6 hrs. lecture and studio/wk.

CD 230
DRAWING AND MEDIA METHODS 3 (3 CR)

Prerequisite: CD 131

This course will provide an understanding of the application of illustration to communication design. Visual problem-solving processes acquired in Drawing Methods 2 will be further developed through problems in image composition emphasizing expressive communication. Techniques in traditional and digital media are explored. This course is typically offered in the fall semester only. 6 hrs. lecture and studio/wk.

CD 231
ADVANCED TYPOGRAPHY (3 CR)

Prerequisite: CD 134

This course is a continuation of Layout Design. Emphasis will be on typographic solutions that explore verbal/visual messages. Projects include designs for publication, such as posters, brochures, packaging and graphic campaigns. Typography as a functional and experimental medium will be stressed. Design problem- solving for a diverse range of specifications, including audience, client needs and budget constraints, are included. Traditional and digital tools will be incorporated to produce comprehensives. This course is typically offered in the fall semester only. 6 hrs lecture and studio/wk.

CD 235
PRODUCTION METHODS (3 CR)

Prerequisites: CD 134 and CD 140

This course will provide the fundamentals of preparing art for reproduction. Traditional camera-ready art techniques and digital prepress production methods will be emphasized. This course is typically offered in the fall semester only. 6 hrs. lecture and studio/wk.

CD 236
ELECTRONIC PRODUCTION (3 CR)

Prerequisites: CD 230 and CD 231 and CD 235 and PHOT 123

This course is a continuation of the Production Methods course, providing experience in digital prepress and other electronic production techniques. The student will apply production skills to problems of professional scope and complexity, including specialty processes, trapping and color separation. Preparation of graphic files for screen presentation and for the Web will be explored. This course is typically offered in the spring semester only. 6 hrs. lecture and studio/wk.

CD 244
COMMUNICATION SYSTEMS (3 CR)

Prerequisites: CD 230 and CD 231 and CD 235 and either CIM 135 or PHOT 123

This course will explore the scope and potential of graphic design as a vehicle for visual communication in contemporary society. Signs and symbols, as well as the communicative power of typographic, hand graphic and photographic modes, will be studied. Traditional and electronic methods will be used to develop projects. This course is typically offered in the spring semester only. 6 hrs. lecture and studio/wk.

CD 245
ADVANCED DESIGN PRACTICE (3 CR)

Prerequisites: CD 230 and CD 231 and CD 235 and either CIM 135 or PHOT 123

This course will focus on the use of the student's total design capability and technical knowledge in solving graphic design problems of professional scope and complexity. Students will have the opportunity to work with three art directors and produce three professional projects for potential inclusion in their portfolios. This course is typically offered in the spring semester only. 6 hrs. lecture and studio/wk.

CD 272
PROFESSIONAL PREPARATION (3 CR)

Prerequisites: The student must have completed all required studio courses in the communication design program prior to the semester for which he or she is enrolling in this course or be co-enrolled in all fourth-semester studio courses.

This course will provide communication design majors instruction in the organization and presentation of his or her work in a portfolio format of professional quality. A portfolio, digital portfolio archive, self promo, resume and business ensemble will be produced. Instruction in interviewing techniques and employment searches will also be provided. 6 hrs. lecture and studio/wk.

CD 275
COMMUNICATION DESIGN INTERNSHP (1 CR)

Prerequisites: Communication Design faculty review committee approval.

Students will work in an approved training situation under instructional supervision. The internship is designed to give the student the opportunity to use the skills learned in the communication design program. Student interns will complete a minimum of 180 hours on the job and will be compensated with at least the minimum hourly wage.

Computer Desktop Publishing (CDTP)

CDTP 131
DESKTOP PUBLISH I:QUARKXPRESS (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CIS 124 or DP 124 or CPCA 128 or an appropriate score on an assessment test.

In this career-related course, students will create page layout documents using a variety of basic techniques on either the Macintosh or PC computer platform. Students will produce text material with complex tabs and indents and style attributes. Students will also be able to group and distribute multiple elements, demonstrate a basic proficiency with drawing tools, multiple document work, drop caps, text rotation, locking items and threading text blocks. 1 hr. lecture/wk.

CDTP 135
DESKTOP PHOTO MAN I: PHOTOSHOP (1 CR)

Prerequisites: CPCA 105 or CPCA 106 or CIS 124 or or DP 124 or CPCA 128 or an appropriate score on an assessment test.

This course is designed to explore the manipulation of digital photographs using a variety of techniques and tools. The application of painting and editing tools to digital images; the manipulation of selections, layers and resolution; and analyzing scanned images will be covered. 1 hr. lecture/wk.

CDTP 140
DESKTOP PUBLISHING I:INDESIGN (1 CR)

Prerequisites: CPCA 105 or CPCA 106 or CIS 124 or DP 124 or CPCA 128 or an appropriate score on an assessment test.

In this career-related course, students will create page layout documents using a variety of basic techniques on either the Macintosh or PC computer platform. Students will produce text material with complex tabs and indents and style attributes. Upon successful completion of the course, students will also be able to group and distribute multiple elements and demonstrate a basic proficiency with drawing tools, multiple document work, drop caps, text rotation, locking items and threading text blocks. 1 hr. lecture/wk.

CDTP 145
DSKTP ILLUST I:ILLUSTRATOR (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CIS 124 on an assessment test.

In this career-related course, students will create basic computer-generated illustrations using a variety of techniques on either the Macintosh or Windows PC computer platform. Students will draw simple paths and shapes, create layers, import graphics and add typographic elements in rows and columns with runarounds, baseline shifts and conversion to outlines. 1 hr. lecture/wk.

CDTP 151
DESKTOP PUBLISH II:QUARKXPRESS (1 CR)

Prerequisite: CDTP 131

In this career-related course, students will create page layout documents using a variety of basic techniques on either the Macintosh or PC computer platform. Students will produce text material with complex tabs and indents and style attributes. Students will also be able to group and distribute multiple elements and demonstrate a basic proficiency with drawing tools, multiple document work, drop caps, text rotation, locking items and threading text blocks. 1 hr. lecture/wk.

CDTP 155
DESKTOP PHOTO MAN II:PHOTOSHOP (1 CR)

Prerequisite: CDTP 135

This course presents advanced techniques of Photoshop. Topics covered include creating and manipulating text, importing existing images and creating new images. Other topics will include applying filter effects, correcting color, retouching and repairing images, adding special effects and preparing art for the Web. Students will explore solutions to specific Photoshop problems and will plan and create individual projects. 1 hr. lecture- demonstration/wk.

CDTP 160
DESKTOP PUBLISHING II:INDESIGN (1 CR)

Prerequisite: CDTP 140

In this career-related course, students will create intermediate-level page layout documents using a variety of techniques on either the Macintosh or PC computer platform. Students will learn how to work with type styles, threads, columns, special characters, hanging indents, vertical spacing and tables as well as exploring PDF files. Students will also be able to master several aspects of working with graphic images: placing images, linking, clipping paths, libraries, grids, Bezier drawing, compound paths and reflections. Finally, students will work with advanced framing techniques to nest frames within shapes. 1 hr. lecture/wk.

CDTP 165
DESKTOP PUBLISH II:ILLUSTRATOR (1 CR)

Prerequisite: CDTP 145

In this career-related course, students will create intermediate-level computer-generated illustrations using a variety of techniques on either the Macintosh or PC computer platform. Students will trace an object, create complex

gradients with custom blends, create complex objects receding toward a vanishing point, and create an orthogonal projection to simulate depth. 1 hr. lecture /wk.

CDTP 171
DESKTP PUBLISH III:QUARKXPRESS (1 CR)

Prerequisite: CDTP 151

In this career-related course, students will create several brochure layouts on either the Macintosh or PC computer platform that incorporate a variety of drawing techniques, including layering, blends, distribution, EPS files, Bozier shapes, merge shapes and multi-ink colors. Pre-press production for final art will also be covered. 1 hr. lecture/wk.

CDTP 175
DKTP PHOTO MAN III:PHOTOSHOP (1 CR)

Prerequisite: CDTP 155

This course presents advanced techniques for using Photoshop. Advanced topics include painting techniques, photographic techniques, image manipulation techniques, and composing techniques. Airbrushing, blending modes, channels, clipping groups, colorizing, filters, gradients , layer effects, masks and modes, levels, lighting effects, masking, perspective and depth, posterizing, restoration, retouching, texturizing and tiling are techniques that will be covered. Students will explore and apply solutions to specific Photoshop problems by creating individual projects. 1 hr. lecture/wk.

CDTP 180
PHOTOSHP/WEB:PHOTSHP/IMAGE RDY (1 CR)

Prerequisite: CDTP 155

This course is designed to explore the preparation of digital photographs and images for the Web using a variety of techniques and tools. Optimizing images for the Web, creating Web graphics using slices and rollovers, designing Web pages using multiple Adobe programs (Adobe Acrobat and Adobe GoLive), and creating animated images for the Web will be covered. 1 hr. lecture/wk.

CDTP 185
DESKTP ILLUST III:ILLUSTRATOR (1 CR)

Prerequisite: CDTP 165

In this career-related course, students will create advanced computer-generated illustrations using a variety of techniques on either the Macintosh or PC computer platform. Students will create charts, autotrace scanned images, fill objects with various pen-and-ink filter effects and create an imagemap for the Web. 1 hr. lecture/wk.

Computer Forensics (CFOR)

CFOR 150
INTRO TO COMPUTER FORENSICS (3 CR)

Prerequisite: CIS 134 and CPCA 139

In this course, students are introduced to computer forensics and incident response essentials. This course shows the student how to collect and analyze the digital evidence left behind in a digital crime scene. Computer forensics, the newest branch of computer security, focuses on the aftermath of a computer security incident. The goal of computer forensics is to conduct a structured investigation to determine exactly what happened and who was responsible and to perform the investigation in such a way that the results are useful in a criminal proceeding. 3 hrs. lecture/wk.

Computer Information Systems (CIS)

CIS 110
INTRODUCTION TO COMPUTERS (2 CR)

This course provides a comprehensive overview of the computer-what it is, what it can and cannot do, how it operates and how it may be instructed to solve problems. The course will familiarize learners with the terminology of computer science. The course provides opportunities to examine the application of the computer to a broad range of organizational settings and social environments. The course is designed to prepare learners to understand and use computers in both their personal and professional lives. 2 hrs. lecture/wk.

CIS 124
INTRO COMPUT/CONCEPTS & APPLIC (3 CR)

In this introductory, nontechnical computer course, students study computing concepts, terminology, issues and uses. Extensive hands-on experience with the microcomputer is provided using business applications and the operating system to reinforce the concepts. 3 hrs. lecture/wk.

CIS 134
PROGRAMMING FUNDAMENTALS (4 CR)

At the completion of this course, the student should be able to use the elementary concepts of computers, including several number systems. In addition, students will design, develop and write modular programs on a microcomputer in a structured programming language using standard structured concepts. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 138
VISUAL BASIC .NET (4 CR)

Prerequisite: CIS 134

Upon successful completion of this course, students should be able to describe the Visual Basic programming environment, identifying the controls and objects available for creating .NET applications. Students should be able to define the basic terminology used by Visual Basic. They will create forms, draw the controls for each form, design menu bars, set form and control properties, write event and general procedures, and test and debug their applications. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 140
EDITOR FOR COBOL (1 CR)

Prerequisite: CIS 134

In this introductory course, students will focus on using an editor to create and manipulate files on a computer. They also will submit computer programs for execution. 1 hr. lecture, lab/wk.

CIS 145
ASSEMBLER LANGUAGE FOR MICROS (4 CR)

Prerequisite: CIS 134 or ENGR 171 or the equivalent experience. It is recommended that this course be taken after completion of CS200 or an equivalent programming course beyond PROGRAMMING FUNDAMENTALS or PROGRAMMING FOR ENGR & SCIENCE

Students will study and use assembler language for the microcomputer in order to understand the basic concepts of the personal computer and its use in problem solving. Topics include the microcomputer CPU, registers and memory segmentation. Practical applications include DOS and BIOS systems services, array and bit processing, and library calls. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 148
COBOL I (4 CR)

Prerequisite: CIS 134 Corequisite: CIS 140

Students will study the use of the COBOL programming language by writing programs in COBOL in a mainframe environment. Emphasis will be on function and use of statements in the four divisions of ANSI COBOL. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 150
ASSEMBLER LANGUAGE I (4 CR)

Prerequisite: CIS 134 Corequisite: CIS 140 It is recommended that this class be taken after CIS 148

Students will write programs using assembler language in order to understand the basic concepts of the IBM mainframe. Topics include CPU, registers and memory fetching. Practical applications include I/O, array processing and bit manipulation. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 162
DATABASE PROGRAMMING (4 CR)

Prerequisite: CIS 134 or the equivalent

This course covers the use of an interactive environment and programming language to create, maintain and manipulate databases using Access as the RDBMS. The use of a command-level database programming language to customize business systems and selectively retrieve information using single or multiple database tables also will be studied. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 204
UNIX OPERATING SYSTEM (3 CR)

Prerequisite: CS 200 or CS 205 or CS 201 and CPCA 139

This course will cover the concepts and principles of the multi-user, multi-tasking UNIX operating system. Students will complete projects in UNIX ranging from using simple commands to writing shell scripts automating repetitive tasks. 3 hrs. lecture/wk.

CIS 206
PROGRAMMING IN PERL (4 CR)

Prerequisite: CS 200 or CS 205 or CS 201 and CPCA 139

This course is an in-depth introduction to the Perl scripting language. Students successfully finishing the course should be familiar with the most common operations and language idioms used in Perl programs and should be able to produce useful Perl scripts. In addition, students will have been introduced to the more powerful and rich elements of the language. Lectures and lab projects will cover the many features of the Perl language. 3 hrs. lecture, 1.5 hrs. lab/wk.

CIS 215
OS/VS JOB CONTROL LANGUAGE (3 CR)

Prerequisite: CIS 148 or CIS 150

Students will study the use of OS/VS JCL and typical applications. Emphasis will be on rules of coding JCL, optimizing resources, use of symbolic parameters and overriding statements. An IBM mainframe will be used in the application of JCL and utilities. 3 hrs. lecture/wk.

CIS 235
Object-Oriented Programming Using C++ (4 CR)

Prerequisite: CS 200 using C++

This course is intended to prepare students to apply the object-oriented

programming paradigm to solve typical business problems. The student should work with container classes such as Linked Lists, Trees, Stacks and Queues as tools in their program solutions. Students will be building application-oriented objects using the concepts of inheritance, function overloading and polymorphism. Students will also apply techniques of dynamic memory to build arrays and objects that can adjust memory requirements at run time. Students will be exploring the object-oriented and I/O capabilities as well as the string processing capabilities of the object-oriented language. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 238
VISUAL BASIC INTERMED TOPICS (4 CR)

Prerequisite: CIS 138

Upon successful completion of this course, students should be able to write and test a Visual Basic program that uses the .Net data access objects to access a local database. They will identify the commands necessary to open, display and maintain the database. They will correctly use Visual Basic keystroke events to edit and control input to the database. Students will use the Try Catch Error trapping structures to create robust projects. Students will generalize code for reuse, coordinates a TextBox and ListBox and can be deployed from the ToolBox. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 240
ADVANCED TOPICS IN JAVA I (4 CR)

Prerequisite: CS 250 or CIS 235 or CS 255

At the completion of this course, the student should be able to create Java applications and applets appropriate for implementation on the Internet and World Wide Web. The student will complete projects using Java's built-in features. The course will include graphics, graphical user interfaces, exception handling, multithreading and interactive media. 3 hrs. lecture, 2 hrs. lab/wk.

CIS 242
INTRO SYSTEM DESIGN/ANALYSIS (3 CR)

Prerequisite: One semester of a computer language beyond CIS 134 or ENGR 171

Students will study the basic philosophy and techniques of developing and using business information systems. The emphasis will be on the human involvement necessary in systems design and implementation. The course will address the use of specific technical approaches available in information processing. 3 hrs. lecture/wk.

CIS 243
Object-Oriented Analysis and Design (4 CR)

Prerequisite: One programming course using an object- oriented programming language, or equivalent experience

This course includes information and materials that will introduce the student to an object-oriented analysis and design methodology suitable for designing systems that can be implemented in any object-oriented programming language. Experience in using specific techniques and tools will be gained through the completion of real-world projects. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 244
ADVANCED TOPICS IN C# I (4 CR)

Prerequisite: CS 250 or CIS 235 or CS 255

At the completion of this course, the student should be able to create C# applications appropriate for implementation on the .NET platform. The student will complete projects using C#'s built-in features. The course will include graphics, graphical user interfaces, exception handling, multi-threading and database access. 3 hrs. lecture and 1.5 hrs lab/wk.

CIS 248
COBOL II (4 CR)

Prerequisite: CIS 148

In this advanced COBOL programming class, students will use ANSI COBOL to solve problems with data on a direct access device. They will work on methods for building, maintaining and using files in a sequential, random and indexed manner. They also will study the sort feature of COBOL. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 253
CICS (4 CR)

Prerequisite: CIS 248

This is an introduction to command-level CICS using the COBOL language. The class will cover basic CICS commands and their uses as well as CICS management modules and their functions, including program control, terminal control, basic mapping support, file control and temporary storage. Debugging on the transaction level will be discussed. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 254
UNIX SYSTEM ADMINISTRATION (4 CR)

Prerequisite: CIS 204

This course is designed to present the skills and provide the hands-on experience required to be a Unix system and Web administrator. Typical system administration duties to be covered include installation, backup, restoration and routine maintenance, including adding/removing users, managing system resources, monitoring and optimizing system activity, and automating activities. Typical Web administration duties to be covered include installation and management of a relational database management system, installation and management of a Web server and an FTP server, kernel recompiling relevant to Web technology, and audio/video streaming. 3 hrs. lecture, 2 hrs. lab/wk.

CIS 258
OPERATING SYSTEMS (3 CR)

Prerequisite: CIS 145 or CIS 148 or CIS 150 or CS 200

The basic concepts and principles of a digital computer operating system will be explained. Also explored through a study of a typical digital computer operating system will be the relationships between hardware and software. 3 hrs. lecture/wk.

CIS 260
DATABASE MANAGEMENT (4 CR)

Prerequisite: CS 250 or CS 255 or CIS 235 or CIS 238 or CIS 248

Characteristics and objectives of database management systems (DBMS) versus traditional file management systems are discussed. Topics include relational, hierarchical and network models; data modeling using entity-relational model: normalization to avoid modification anomalies; and operational considerations of a relational database. Students will create and use a relational DBMS (currently Oracle) and a Standard Structured Query Language (SQL). SQL*Plus and embedded SQL will be used in programs. 3 hrs. lecture, 2 hrs. lab/wk.

CIS 262
PROJECT MANAGEMENT (3 CR)

Prerequisite: CIS 242

This course will prepare students to effectively manage projects, with a focus on information systems (IS) projects. Topics include project management terminology, project manager roles, project success factors, integration, scope, time, cost, quality, human resources, communications, risk, professional responsibility and procurement management. Using case studies, students will

plan, schedule, execute and control projects, modifying their timelines and resource allocations as required. 3 hrs. lecture/wk.

CIS 264
APPL DEVELOPMENT & PROGRAMMING (4 CR)

Prerequisite: CIS 242 and either CIS 260 or CIS 162 and Prerequisite or Corequisite: CIS 238 or CIS 253 or CIS 269 or CIS 240 and CIS 262

This course is designed for students to apply the foundations of systems analysis and design, database design and programming to a significant information system. Students should work within a team to analyze a problem, develop and present a proposed information system solution, build a demonstratable prototype of the system and develop a significant portion of the system. Students should also develop a project schedule and present progress information to the class. Students should also develop job search skills and both written and oral communication skills. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 269
GUI PROGRAMMING (4 CR)

Prerequisite: CIS 235 or CS 250

Upon completion of this course, students should be able to demonstrate applications in the graphical user interface (GUI) programming language and use the appropriate GUI library. Techniques of object-oriented programming developed in CIS 235 will be applied to problems involving user interaction. The common user access (CUA) standards of GUI programming will be used throughout the course. The message queue and ordered linked lists objects used in CIS 235 will be applied to problems involving user selection and updating information in a database. Students will make extensive use of the application framework for the GUI environment provided by the GUI language compiler. It is strongly recommended that students be familiar with common user programs that run under the chosen operating system (Windows, OS/2, X-Windows) before taking this course. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CIS 270
INFORMATION SYSTEMS INTERNSHIP (3 CR)

Prerequisites: CS 250 or CS 255 or CIS 235 or CIS 238 or CIS 248 and approval of the internship coordinator

Students will work in an approved training situation under instructional supervision. The internship is designed to give the student the opportunity to use the skills learned in information systems courses. Fifteen hours on-the-job training per week will be the usual workload for the student.

CIS 275
WEB ENABLED DATABASE PROGRAMMI (4 CR)

Prerequisites: CS 200 or CS 201 or CS 205 or CIS 162 and either CPCA 139 or CIS 204 and either CPCA 161 or CPCA 158

At the completion of this course, the student should be able to create dynamic Web pages containing information accessed from a database for implementation on the Internet and World Wide Web. The student will complete projects using Dynamic HTML and a scripting language that can interface with a database. The course will include graphics, graphical user interfaces, exception handling, database and interactive media. 3 hrs. lecture, 2 hrs. lab/wk.

CIS 277
ACTIVE SERVER PAGES.NET (4 CR)

Prerequisites: CS 200 or CS 201 or CS 205 or CIS 162 and either CPCA 139 or CIS 204 and either CPCA 161 or CPCA 158

At the completion of this course, the student should be able to create dynamic Web pages containing information accessed from a database for implementation on the Internet and World-Wide-Web. The student will complete projects using ASP.Net objects, Dynamic HTML and a scripting language that can interface with

a database. The course will include graphics, graphical user interfaces, exception handling, database, and interactive media. 3 hrs. lecture, 2 hrs. lab/wk.

CIS 279
ENTERPRISE GUI PROGRAMM IN C++ (4 CR)
Prerequisite: CIS 243 and CIS 269 and CIS 260

Students will learn advanced programming techniques for Windows, including enterprise software tools, advanced user-interface techniques, multimedia, ActiveX and Internet programming. The course project provides students with real-world development experience covering analysis, design and implementation of a large-scale development project using an object-oriented software development methodology, version control technique, advanced testing techniques, defect-tracking and technical documentation. 3 hrs. lecture, 2 hrs. lab/wk.

CIS 280
ADVANCED TOPICS IN JAVA II (4 CR)
Prerequisite: CIS 240

At the completion of this course, the student should be able to create Java applications and applets that link to databases and provide the security and advanced GUI features appropriate for implementation on the Internet and World Wide Web. The student will complete projects using Java's built-in features. The course will include techniques for graphics optimization, building components for graphical user interfaces, client-server database connections in Java, handling security managers, building JAR files, using Java's remote objects and linking to other applications. 3 hrs. lecture, 2 hrs. lab/wk.

Computer Personal Computer App (CPCA)

CPCA 105
INTRO PERSONAL COMPUTERS:WIN (1 CR)

This introductory course is designed to give the beginning computer user an overview of the personal computer. The student will gain confidence in basic computer skills and concepts through a hands-on approach while becoming familiar with a microcomputer and its primary uses. Topics include computer software, hardware and terminology; an introduction to microcomputer operating systems; and the graphical user interface. 1 hr. lecture /wk.

CPCA 106
INTRO TO COMPUTING:MACINTOSH (1 CR)

This introductory course is designed to give the beginning computer user an overview of the Macintosh personal computer. The student will gain confidence in basic computer skills and concepts through a hands-on approach while becoming familiar with a Macintosh computer and its primary uses. Topics include computer software, hardware and terminology; as well as an introduction to the Macintosh operating system, word processing, drawing, spreadsheets and database management. 1 hr. lecture/wk.

CPCA 108
WORD PROCESSING ON MICROS I (1 CR)
Prerequisites: CPCA 105 or CPCA 106 or CIS 124 or DP 124 or CPCA 128

Students will learn concepts and use of word processing software on the personal computer. Concepts covered will include creating, saving, printing and editing word processing files; searching and replacing text; creating headers and footers; inserting and resizing graphic images; setting up tables; creating and applying styles; and creating mail merge letters. 1 hr. lecture/wk.

CPCA 110

SPREADSHEETS ON MICROS I (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CIS 124 or DP 124 or CPCA 128

Students will learn concepts and uses of spreadsheet software on the personal computer. Business decision- making worksheet models will be created and modified by entering labels, functions and formulas. Various formatting techniques will be applied to enhance the appearance of printed worksheets. Students will also learn to display the worksheet data graphically with the charting capabilities of the software. 1 hr. lecture/wk.

CPCA 111
SPREADSHEETS ON MICROS II (1 CR)

Prerequisite: CPCA 110 or CPCA 128 or DP 124 or CIS 124

This course is a continuation of CPCA 110, Spreadsheets on the Microcomputer I, and will provide the student with intermediate level of spreadsheet concepts. Using typical business scenarios, the student will perform manual and automated "what-if" analyses, manage data in worksheets with tables and database functions, and use multiple worksheets to build consolidated statements. Basic macros will be introduced. 1 hr. lecture/wk.

CPCA 114
DATABASES ON MICROCOMPUTERS I (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CPCA 128 or CIS 124 or DP 124

This course provides an introduction to the concepts and real-world applications of microcomputer relational database software. Foundational database competencies, including building tables, defining fields, relating tables, entering and editing data, filtering, and sorting will be covered. Students will query the database to select, calculate and summarize information. Students will build and customize forms and reports. 1 hr. lecture/wk.

CPCA 115
DATABASES ON MICROCOMPUTERS II (2 CR)

Prerequisite: CPCA 114

Upon completion of this course, the student should be able to design and define a relational database; create custom forms and reports for data entry, updating and presentation; and build the necessary queries to support these objects. The student should be able to transfer data into and out of the database from various file formats; use database software to develop Web pages and hyperlinks; and manipulate the data and database with introductory macro, query language and programming skills. The course contains a capstone project in which the student uses all the skills learned to create a working database for a client based on a real-world situation. 2 hrs. lecture/wk.

CPCA 116
DATABASE:FILEMAKER PRO (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CPCA 128 or CIS 124 or DP 124

In this career-related course, students will be introduced to the essential concepts of data management so they can store, organize and synthesize information for effective use in the day-to-day business needs of even a medium-sized organization. Students will create a database file with fields, records, calculations, summaries, auto entries and pop-up lists. Several layouts will be created with links between them. Sorts and finds will be created and saved as scripts with buttons. 1 hr. lecture/wk.

CPCA 117
DATABASES/ON MICROCOMPUTER III (1 CR)

Prerequisite: CPCA 115

Upon successful completion of this course, the student should be able to analyze an existing database solution that is not working properly, import the data into Access and use action queries and SQL to normalize the database into an

effective rational database. A case study emphasis will cover different database design and documentation issues. Students will also build complex forms and reports using Visual Basic for Applications programming code. Student will be introduced to Data Access Objects and ActiveX Data Objects. 1 hr. lecture /wk.

CPCA 118
GROUPWARE (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CPCA 128 or CIS 124 or DP 124

This course provides an introduction to the concepts and applications of today's robust groupware applications. Students will use groupware to compose, send and receive e-mail; post and organize discussion group messages; manage calendars, appointments and to-do lists; and use contact management features. 1 hr. lecture/wk.

CPCA 121
INTRO TO PROJECT MANAGEMENT (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CPCA 128 or CIS 124 or DP 124

Upon completion of this course, the student should be able to effectively manage projects using project management software. Students will learn about project management goals and terminology, create a project schedule and use project management methodologies and tools such as the Gannt chart, critical path method (CPM) and program evaluation review technique (PERT) chart to update a project and communicate project progress to others. Students will use other project management techniques such as applying resources, leveling overallocations, evaluating constraints and analyzing planned versus projected schedule and budget variables. 1 hr. lecture/wk.

CPCA 122
ASSISTIVE TECHNOLOGY (1 CR)

This introductory course is designed to give the student with or without disabilities an overview of the personal and the adaptive hardware and software available. The student will gain confidence in basic computer skills and concepts through a hands-on approach while becoming familiar with the adaptive software and hardware available on the campus. 1 hr. lecture/wk.

CPCA 123
PRESENTATION GRAPHICS (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or DP 124 or CIS 124 or CPCA 128

Upon completion of this course, students should be able to organize and produce an effective on-computer or slide -generated presentation, complete with printed speaker notes and handouts plus overhead transparencies, using the basic features of a presentation graphics program. Students will use master pages, template files, text formatting, color schemes, various drawing tools, the automated outline feature and animation dissolve sequence and incorporate photographs. 1 hr. lecture/wk.

CPCA 125
WORD PROCESSING ON MICROS II (1 CR)

Prerequisite: CPCA 108

This is a continuation of CPCA 108, Word Processing on Micros I. After completing this course, students should be able to use advanced concepts and applications of word processing software. The applications will include importing graphics, creating reports, newsletters, footnotes and endnotes, styles, columns, templates, macros, creating a Web page, on-screen forms, and linking and embedding an object. 1 hr. lecture/wk.

CPCA 128
PERSONAL COMPUTER APPLICATIONS (3 CR)

Upon successful completion of this course, the student should be able to use

Windows to create and organize files and folders and perform essential file management procedures such as copying, moving, deleting and renaming files and folders. An in-depth proficiency will also be attained with the use of word processing, spreadsheet, presentation graphics and Internet browser applications. Hands-on, practical projects will be performed to reinforce the concepts taught. 3 hrs./wk.

CPCA 134
MANAGING YOUR MACINTOSH (1 CR)

Prerequisite: CPCA 106

In this career-related course, students will be introduced through lecture material and hands-on practical projects to the essential concepts of file organization, utility software installation and use, font management and backup techniques. 1 hr. lecture/wk.

CPCA 138
WINDOWS FOR MICROS (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CPCA 128 or CIS 124 or DP 124

At the completion of this course, the student will be able to discuss the components of the Windows desktop, use the Windows Help system, create and organize a folder system on a disk, perform file management commands, customize the Windows desktop environment, use the Search tool to locate files and folders, and perform file backup and disk maintenance procedures. The student will also be able to use performance monitoring tools, add hardware and software to the system, and use basic MS DOS directory and file management commands.

CPCA 139
UNIX (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CPCA 128 or CIS 124 or DP 124

This course will introduce students to the major commands of the Unix operating system. E-mail, the vi editor and Telnet will be covered. Basic file and disk management projects will be completed in this course. 1 hr. lecture/wk.

CPCA 141
INTERNET I (1 CR)

Prerequisite: CPCA 105 or CPCA 106 or CPCA 128 or CIS 124 or DP 124

This course will introduce the student to the commands and techniques required to effectively access the resources of the Internet. Windows applications to browse the Internet, locate and retrieve information and send and receive electronic mail will covered. 1 hr. lecture/wk.

CPCA 151
INTERNET II (1 CR)

Prerequisite: CPCA 141

This course will cover the commands and techniques required to effectively use various Internet application tools. The student will also use Windows and non-Windows applications to locate information, download and upload files, and create a Web page. Additionally the course will cover basic linux commands and publish a web page to a web server. 1 hr. lecture/wk.

CPCA 158
INTERNET APP & UTILITIES (3 CR)

Prerequisite: CPCA 141

This course will introduce the student to the commands and techniques required to effectively access the resources of the Internet. Windows and non-Windows applications will be used to locate, retrieve and disseminate essential information. This course will cover the techniques required to create and publish World Wide

Web pages using HTML. 3 hrs. lecture- demonstration/wk.

CPCA 161
INTRODUCTION TO WEB PAGES (1 CR)
Prerequisite: CPCA 151

This course will cover the commands and techniques required to create and publish World Wide Web pages using HyperText Markup Language. Topics covered will include basic text layout, background colors, formatting, ordered and unordered lists, tables, frames that include graphic images in a page and linking to other Web pages. 1 hr./wk.

Computer Science (CS)

CS 180
INTRO ARTIFICIAL INTELLIGENCE (3 CR)
Prerequisite: CIS 145 or DP 145 or CIS 148 or DP 148 or CIS 150 or DP 150 or CS 200

Upon successful completions of this course, students should be able to understand simple computer programs illustrating introductory concepts in artificial intelligence, define terms and application areas in the field and describe knowledge representation and problem-resolution techniques used in artificial intelligence. 3 hrs. lecture/wk.

CS 200
Concepts of Programming Algorithms Using C++ (4 CR)
Prerequisite: CIS 134 or ENGR 171 or equivalent experience

This course emphasizes programming methodology and problem solving. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. An appropriate block-structured high-level programming language will be studied and used to implement algorithms. 3 hrs. lecture, 2 hrs. lab by arrangement/wk.

CS 201
CONCEPTS/PROG ALGORITHMS C# (4 CR)
Prerequisite: CIS 134 or ENGR 171 or equivalent experience

This course emphasizes programming methodology and problem-solving using C#. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. 3 hrs. lecture, 1.5 hrs. lab/wk

CS 205
Concepts of Programming Algorithms Using JAVA (4 CR)
Prerequisite: CIS 134 or ENGR 171 or equivalent experience

This course emphasizes programming methodology and problem-solving using Java. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. 3 hrs. lecture, 1.5 hrs. lab/wk.

CS 210
DISCRETE STRUCTURES I (3 CR)
Prerequisites: MATH 171 or both MATH 116 and CIS 134 or appropriate test scores

Upon successful completion of this course, the student should be able to use fundamental discrete mathematics as it relates to computers and computer applications. The student will be exposed to a variety of discrete mathematical topics. The course will include fundamental mathematical principles, combinatorial analysis, mathematical reasoning, graphs and trees, and Boolean logic circuits. 3 hrs. lecture/wk.

CS 211
DISCRETE STRUCTURES II (3 CR)

Prerequisite: CS 210

Upon successful completion of this course, the student should be able to use fundamental discrete mathematics as it relates to computers and computer applications. The student will experiment with a variety of discrete mathematical topics. The course will include fundamental mathematical principles, combinatorial analysis, mathematical reasoning, graphs and trees, and Boolean logic circuits. 3 hrs. lecture/wk.

CS 250
BASIC DATA STRUCTURES/C++ (4 CR)

Prerequisite:CS 200 Prerequisite or Corequisite: CS 210 for students transferring to most four-year computer science programs.

This course will cover advanced programming topics using C++. Files, recursion, data structures and large program organization will be implemented in projects using object-oriented methodology. Students will write programs using the concepts covered in the lecture. 3 hrs. lecture, 2 hrs. lab/wk.

CS 255
BASIC DATA STRUCTURES/JAVA (4 CR)

Prerequisite: CS 205

This course will cover advanced programming topics using Java. Files, recursion, data structures and large program organization will be implemented in projects using object-oriented methodology. Students will write programs using queues, stacks, lists and other concepts covered in the lecture. 3 hrs. lecture, 1.5 hrs. lab/wk.

Computer Web (CWEB)

CWEB 101
INTRO WEB/INTERNET EXPLORER (1 CR)

Prerequisites: CPCA 105 or CPCA 106 or CPCA 128 or DP 124 or CIS 124

This course will introduce the student to commands and techniques required to effectively use the resources of the World Wide Web. Topics to be covered will include how to browse, search and retrieve information on the Internet using Internet Explorer, how to create and manage "favorites", how to protect computers from viruses, how to send and receive electronic mail, and how to create a basic home page. 1 hr. lecture/wk.

CWEB 105
INTRO WEB PAGES: DREAMWEAVER (1 CR)

Prerequisite: CWEB 101

This course will cover the commands and techniques required to create and revise Web pages using Dreamweaver. Topics to be covered will include basic text layout, viewing and identifying basic HTML tags, creating a site map, formatting a Web page, applying background color, inserting images and sounds, creating ordered and unordered lists, inserting files, and creating links on Web pages. 1 hr. lecture/wk.

CWEB 106
INTRO/MICROSOFT FRONTPAGE (1 CR)

Prerequisite: CWEB 101

This course will cover the commands and techniques required to create and revise World Wide Web pages using Microsoft FrontPage. Topics to be covered will include basic text layout, viewing and identifying basic HTML tags, formatting a Web page, inserting background color, adding pictures and sounds, creating

ordered and unordered lists, inserting files and creating links to other Web pages. 1 hr. lecture/wk.

CWEB 107
WEB TOOLS: MICROSOFT OFFICE (1 CR)
Prerequisites: CWEB 101 and CPCA 110 or CPCA 114

Upon successful completion of this course, the student should be able to create static and dynamic Web based documents, Excel spreadsheets, PowerPoint presentations and Access databases. 1 hr. lecture/wk.

CWEB 108
GOLIVE I (1 CR)
Prerequisite: CPCA 105 or CPCA 106

This short course provides instruction in the creation, production and management of Web pages and Web sites. The course covers introductory concepts and techniques in Web page creation, from the initial preplanning and page layout through the actual publishing of Web pages to a Web site. The emphasis is on introductory, practical experience in Web page creation and management using Adobe GoLive. 1 hr. lecture/wk.

CWEB 111
INTERMEDIATE WEB USING IE (1 CR)
Prerequisite: CWEB 101

This course is a continuation of CWEB 101, Introduction to the Web using IE, and will cover intermediate commands and techniques required to use various Web-based tools and programs. Topics to be covered will include using complex search strategies; finding people, businesses, and e-mail addresses on the Web; accessing and using Newsgroups; joining and leaving mailing lists; using a Web-based chat facility; locating and downloading freeware and shareware programs; and identifying online backup and storage options. 1 hr. lecture/wk.

CWEB 115
INTERMED WEB PAGES:DREAMWEAVER (1 CR)
Prerequisite: CWEB 105

This course will cover intermediate-level commands and techniques required to create and enhance a Web page using Dreamweaver. Topics to be covered will include tracing images, layers, converting layers to tables, custom tables, cascading style sheets, templates and libraries, and publishing a Web site. 1 hr. lecture/wk.

CWEB 116
INTERMED MICROSOFT FRONTPAGE (1 CR)
Prerequisite: CWEB 106

This course is a continuation of CWEB 106, Introduction Web Pages: FrontPage, and will cover intermediate-level commands and techniques required to create and enhance a FrontPage Web site. Topics to be covered will include shared borders and themes, publishing a Web site, new Web site creation on a Web server, database integration and using office components and styles. 1 hr. lecture/wk.

CWEB 118
GOLIVE II (1 CR)
Prerequisite: CWEB 108

This intermediate course is designed to explore the reation, production and management of Web pages and Web sites using a variety of techniques and tools within Adobe GoLive. Creating animations, using actions and JavaScript, creating forms, using cascading style sheets, and management of Web sites will be covered. 1 hr. lecture/wk.

CWEB 130
INTRODUCTION TO FLASH (1 CR)

Prerequisite: CPCA 161 or CWEB 105 or CWEB 106

This course will cover the commands and techniques available to add Flash content to Web pages and CD-ROMs. Topics covered will include using drawing tools, manipulating text with text tools, adding and modifying sound, creating animation and publishing work. This class will be taught in a classroom with both Macintosh and Windows computers. 1 hr. lecture/wk.

CWEB 135
WEB DATABASES I USING ACCESS (1 CR)

Prerequisite: CPCA 114

Upon completion of this course, the student should be able to create dynamic Web pages used to publish database information or create user entry forms. Using a browser, students will be able to open the Web pages to find, sort , enter and update data in the underlying database. Students will be introduced to underlying Internet technologies, such as Web servers, ODBC, HTML, and HTTP, and how they relate to a data-driven Web site. 1 hr. lecture/wk.

CWEB 140
INTERMEDIATE FLASH (1 CR)

Prerequisite: CWEB 130

This course will build on the fundamental skills learned in CWEB 130, Introduction to Flash. Topics will include complex animation techniques; interactivity with simple frame actions; and interactivity using objects such as buttons, hot spots and movie clips. 1 hr. lecture/wk.

CWEB 145
WEB DATABASES II/ACCESS (1 CR)

Prerequisite: CWEB 135

Upon completion of this course, the student should be able to create advanced dynamic Web pages used to publish database information, create complex user entry forms and analyze data interactively with advanced controls such as charts. Using a browser, students will be able to open the Web pages to manipulate and analyze data in the underlying database. Students will implement Internet technologies, such as Web servers, ODBC, HTML and HTTP, to build an intranet-based Web-enabled database . 1 hr. lecture/wk.

CWEB 150
ADVANCED FLASH (1 CR)

Prerequisite: CWEB 140

This course will build on the skills learned in CWEB 131, Intermediate Flash. Students will do projects to control movie clips, sound, external data, multiple timelines and text fields. Some ActionScripting will be introduced. 1 hr. lecture/wk.

CWEB 160
INTRODUCTION TO JAVASCRIPT (1 CR)

Prerequisite: CWEB 105 or CWEB 106 or CPCA 161

This course will cover the commands and techniques available to add functionality to Web pages using JavaScript. Topics to be covered include integrating JavaScript into an HTML file, creating pop-up windows, adding scrolling messages, validating forms and enhancing the use of image and form objects. 1 hr. lecture/wk.

CWEB 165
INTRODUCTION TO ADOBE ACROBAT (1 CR)

This course will introduce students to the Adobe Acrobat software program.

Students will be presented with the basics of Adobe Acrobat and will be shown how to create and edit PDF files using Acrobat and Distiller. Topics will include how to gather Web page content for off-line viewing and how to use JavaScript inside a PDF document to make it interactive. Projects will include how to add navigation, multimedia elements and data forms to PDF files. 1 hr. lecture/wk.

CWEB 170
INTERMEDIATE JAVASCRIPT (1 CR)

Prerequisite: CWEB 160

This course builds on the skills learned in CWEB 160, Introduction to Web Scripting: JavaScript. Students will learn to use JavaScript in their Web pages to build menus and navigational structures. They will also learn to use intermediate techniques for cookie manipulation and storage. Complex use of operators (Bitwise, Assignment, Comparison, Arithmetic and Boolean) will be explained. 1 hr. lecture/wk.

CWEB 180
E-COMMERCE USING JAVASCRIPT (1 CR)

Prerequisite: CWEB 170

This course builds on the skills learned in CWEB 160, Introduction to Web Scripting:javaScript, and CWEB 161, Intermediate JavaScript. The student will build a complete e-Commerce site that will support online ordering and payment with JavaScript. 1 hr. lecture/wk.

CWEB 190
ACTIONSCRIPT FOR FLASH (1 CR)

Prerequisite: CWEB 150

This course will teach the basic skills needed to use ActionScripts in Flash movies. Students will build interactivity into their movies using ActionScript. They will also manipulate data and control Flash objects such as movie clips. ActionScript logic and functions will be explained. 1 hr. lecture/wk.

CWEB 230
INTRO E-COMMERCE APPLICATIONS (1 CR)

Prerequisite: CWEB 101 or CPCA 141

This course will introduce students to e-commerce in a software-driven, hands-on way. It will use software tools to discuss and explore a variety of e-commerce activities. Students will examine an extensive list of e-commerce sites, such as those that support purchasing, delivery, support, auction, business-to- business, virtual community and Web-portal business goals. They will examine e-commerce stores that incorporate advertising, marketing, branding, and business efficiency goals. They will explore how to populate a store catalog, create site-wide navigation links and publish a store. 2 hr. lecture/wk.

CWEB 240
INTERMEDIATE E-COMMERCE APPLIC (1 CR)

Prerequisite: CWEB 230

This course will use software tools such as Internet Explorer and Netscape Communicator to discuss and explore a variety of intermediate e-commerce activities. For example, students will examine e-commerce security issues, such as cookies, privacy risks and property threats, including copyright issues, viruses, security policies, encryption, digital signatures and transaction integrity. Students will study electronics payment systems, including script, electronic checks, credit card purchases, electronic wallets, smart cards and electronic cash. Students will explore international and legal issues, such as language and custom barriers, laws and regulations, and tax considerations. They will also explore ethical issues, such as trust and defamation issues. Finally, they will explore careers in electronic commerce. 1 hr. lecture/wk.

Cosmetology (AVCO)

AVCO 102
NAIL TECHNOLOGY

This course provides skill instruction in determining nail disorders and care as well as the artistic application of tips, overlays and sculptured nails. Upon successful completion, students are prepared to take the Kansas State Board of Cosmetology onychology examination. 350 contact hrs.

AVCO 110
INTRODUCTION TO COSMETOLOGY

This course provides skill instruction in shampooing, cutting, shaping, curling and coloring. Also included is curriculum from Nail Technology and Cosmetology Technican I and II. The first 500 contact hours are in the basic lab and the classroom without client contact. 500 contact hrs.

AVCO 112
CLINICAL COSMETOLOGY

This course provides continuing skill instruction in shampooing, cutting, shaping, curling and coloring. Included is an introduction to client relations skills and sales promotion techniques. Instruction includes classroom and salon. 500 contact hrs.

AVCO 114
ADVANCED COSMETOLOGY

Prerequsite: AVCO 110

This course provides advanced instruction in shampooing, cutting, shaping, curling and coloring. This course prepares the student for the Kansas State Board of Cosmetology examination. 500 contact hrs.

AVCO 118
ESTHETICS

This course provides skill instruction in skin care. Topics include sanitation, skin sciences, waxing, skin treatments, makeup and business practices. This course prepares the student for the Kansas State Board of Cosmetology esthetician examination. 650 contact hrs.

AVCO 212
COSM INSTRUCTOR TRAINING

Prerequisite: Current Kansas Cosmetology and Esthetics or Nail Technology License. Minimum of one year of practice in trained area.

This 300 contact hour course is design to meet the educational requirements for licensure by Kansas Board of Cosmetology for instructors in the cosmetology sciences. Students will attend 40 hours of lecture and participate in 260 hours of observation, clinic supervision, and classroom teaching. Topics covered include instructor characteristics, student motivation, methods and evaluation. 300 contact hrs.

AVCO 218
ADVANCED ESTHETICS TRAINING

Prequisite: Must possess current esthetics license granted by the Kansas Board of Cosmetology, a current cosmetology license, or the minimum of 500 hours of esthetics training from another institution.

This 100-contact-hour course is designed to meet the education requirements for licensure by the Missouri Board of Cosmetology for estheticians in the cosmetology sciences and meet the needs of students who desire exposure to advanced esthetics techniques. Students will attend 44 hours of lecture/demonstration, practice 48 hours of integrated lecture/clinical, participate

in eight hours of community service. Topics covered include body treatments, theory on the day spa, airbrush makeup, microdermabrasion and manual lymphatic drainage. 100 contact hrs.

Dental Assisting (KDA)

KDA 100

DEVELOPMENTAL DENISTRY (3 CR)

Prerequisite: Admission to the dental assisting program or approval from the program coordinator.

Study of oral embryology; oral histology; developmental disturbances of the face, oral cavity and related structures; head and neck anatomy, and dental morphology and occlusion. 2 hrs. lecture, 2 hrs. lab/wk.

KDA 105

DENTAL LAB PROCEDURES (2 CR)

Prerequisite: Admission to the dental assisting program.

Basic physics and chemistry. Actions, reactions, and physical properties of dental materials. Emphasis on waxes, temporary crowns, custom trays, alginate materials , and diagnostic models. 1 hr. lecture, 2 hrs. lab/wk.

KDA 106

BASIC DENTAL TECHNIQUES (1.5 CR)

Prerequisite: Six months employment as a chairside dental assistant.

Sterilization and disinfection procedures. Basic tooth morphology and terminology. Basic instrument grasps and finger rests and general principles of instrument use. 1 hr. lecture, 1 hr. lab/wk.

KDA 110

CHAIRSIDE ASSISTING I (5 CR)

Prerequisite: Admission to the dental assisting program.

Dental terminology and responsibilities of the dental assistant in the dental operatory. Patient preparation, instrument identification, charting, sterilization techniques, basic operative chairside skills, ethics and jurisprudence. 3 hrs. lecture, 6 hrs. lab/wk.

KDA 115

DENTAL RADIOLOGY I (3 CR)

Prerequisite: Admission to the dental assisting program.

Radiography history, characteristics of radiation production, film composition, x-radiation terminology, effects of radiation exposure, and protection. Exposing, processing, and mounting of radiographs taken on a radiographic manikin. 2 hr. lecture, 3 hrs. lab/wk.

KDA 125

CLINICAL PRACTICE I (2 CR)

Prerequisite: Concurrent enrollment in the dental assisting program.

Clinical experience in operative and preventive dental procedures utilizing four-handed dentistry in the clinic at the University of Missouri-Kansas City School of Dentistry. 6 hrs. clinic/wk.

KDA 126

DENTAL ASSISTANT SEMINAR (1 CR)

Prerequisite: Concurrent enrollment in the KDA 125

Evaluation of experiences in Clinical Practice I. 1 hr. lecture/wk.

KDA 200

BODY STRUCTURE AND FUNCTION (2 CR)

Prerequisite: KDA 100.

Basic anatomy and physiology of human body, oral pathology, principles of disease processes, and micrology. 2 hrs. lecture/wk.

KDA 205

DENTAL BIOMATERIALS (2 CR)

Prerequisite: KDA 105

Manipulation of dental cements, amalgam, esthetic restoratives, alginate and gypsum products, and sealants. 1 hr. lecture, 2hrs. lab/wk.

KDA 210

CHAIRSIDE ASSISTING II (2 CR)

Prerequisite: KDA 110

Dental specialities emphasized. Theory of orthodontics, periodontics, prosthodontics, oral surgery, endodontics, and pedodontics. Application of the concepts of chairside assisting to these specialities. 1 hr. lecture, 3 hrs. lab/wk.

KDA 215

DENTAL RADIOLOGY II (1 CR)

Prerequisite: KDA 115

Radiographic techniques, procedures, and hygiene emphasized. Practical experience in exposing, processing, and mounting radiographs taken on patients and radiographic manikins. 1 hr. lecture, 2 hrs. lab/wk.

KDA 225

DENTAL OFFICE MANAGEMENT (2 CR)

Prerequisite: Enrollment in the dental assisting program.

Principles of business management in the dental office. Control of the appointment book, filing, financial management, insurance forms, supply inventory, and recall systems by conventional and computerized methods. Dental computer applications and use. 1 hr. lecture, 2 hrs. lab/ wk.

KDA 250

CLINICAL PRACTICE II (4 CR)

Prerequisite: KDA 125

Advanced clinical experience in the front office, and at chairside, in radiographic and laboratory assisting techniques in general and in specialty dental offices and clinics. 16 hrs. clinic/wk.

KDA 260

DENTAL ASSISTING SEMINAR (1 CR)

Prerequisite: KDA 250.

Preparation for the Dental Assisting National Board Examination and for successful employmnet. Evaluation of experiences in Clinical Practice II. 1 hr. lecture/wk.

KDA 270

EXPAND FUNC RESTORATATIVE DENT (1 CR)

Prequisite: Student must meet one of the following: 1) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2) Graduate of an ADA-accredited dental assisting or dental hygiene program 3) Completion of KDA 106 Basic Dental Technieques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.

Dental restorative materials with emphasis on placing and carving amalgam and composite restorations and palliative care of dental emergencies. 2 hrs. lab/wk.

KDA 271

EXPAND FUNCT:ORTHODONTIC

Prerequisite: Student must meet one of the following: 1) Certified dental or

orthodontic assistant through the Dental Assisting National Board, Inc. 2) Graduate of an ADA-accredited dental assisting or dental hygiene program 3) Completion of KDA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.

Orthodontic procedures with emphasis on impressions, bending archwires, placement and removal of orthodontic bands and brackets, a palliative care of orthodontic emergencies. 1 hr. lab/wk.

KDA 272

EXPAND/FUNCTION:PERIODONTAL

Prerequisite: Student must meet one of the following: 1)Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2) Graduate of an ADA-accredited dental assisting or dental hygiene program 3) Completion of KDA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missorui Dental Assistants Association.

Periodontal procedures with emphasis on air-brasive coronal polishing and placement of periodontal dressings. 1hr. lab/wk.

KDA 273

EXPAND FUNCTION:PROSTHETIC (1 CR)

Prequisite: Student must meet one of the following: 1) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2) Graduate of an ADA-accredited dental assisting or dental hygiene program 3) Completin of KDA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.

Prosthodontic procedures with emphasis on prosthodontic impression techniques, cementation of dental appliances, extr-oral adjustment of fixed and removable prostheses, placement of soft-tissue liners. 2 hrs. lab/wk.

Dental Hygiene (DHYG)

DHYG 121
CLINIC DENTAL HYG 1:PRECLINIC (5 CR)

Prerequisites: Admission to the Dental Hygiene Program and CHEM 122 and ENGL 121 and SOC 122 and PSYC 130 and BIOL 230 (minimum 2.0 GPA) Corequisites: BIOL 146 and DHYG 125 and DHYG 135

This course will includes information and techniques relating to the history, development, current status and future of the profession of dental hygiene. Students will be introduced to fundamental dental hygiene services, instrumentation, patient assessment, preventive treatment, transmissible diseases, exposure barriers and infection control. 2 hrs. lecture, 13 hrs. lab/wk.

DHYG 125
DEVELOPMENTAL DENTISTRY (2 CR)

Corequisites: BIOL 146 and DHYG 121 and DHYG 135

This course will include a study of embryology; oral histology; developmental disturbances of the face, oral cavity and related structures; and dental morphology and occlusion. 1 hr. lecture, 3 hrs. lab/wk.

DHYG 135
DENTAL MATERIALS (2 CR)

Corequisites: DHYG 121 and DHYG 125 and BIOL 146

This course is designed to provide students with a knowledge base of the science and physical properties of dental materials. Through laboratory exercises, students will have hands-on experience with dental materials used in dental hygiene and dentistry while applying their knowledge of dental material sciences. 1 hr. lecture, 2 hrs. lab/wk.

DHYG 140
CLINICAL DENTAL HYGIENE II (4 CR)

Prerequisite: DHYG 121 or DHYG 136 Corequisites: DHYG 142 and DHYG 146 and DHYG 148 and BIOL225 and DHYG 136 with no grade below a "C" in DHYG courses.

The course will include clinical application of dental hygiene techniques and instrumentation, oral health products, patient motivation and educational techniques, preventive strategies including use of an intraoral clinic camera and an introduction to selected dental specialties. Students will be prepared for medical and dental emergencies which may be encountered in various practice settings. An introduction to the dental hygiene process (ADPIE) and working with special needs patient populations will be provided.

DHYG 142
DENTAL RADIOLOGY (2 CR)

Prerequisites: DHYG 121 and no grade below a "C' in DHGY courses Corequisites: DHYG 136 and DHYG 140 and BIOL 225 and DHYG 146 and DHYG 148

This class will concentrate on the theory and clinical practice of exposing, processing, mounting and evaluating oral radiographs with emphasis on radiation protection and infection control for the patient and operator. 1 hr. lecture, 3 hrs. lab/wk.

DHYG 146
PERIODONTICS (3 CR)

Prerequisites: No grade below a "C" in DHYG courses and DHYG 121 Corequisites: DHYG 136 and DHYG 140 and BIOL 225 DHYG 142 and DHYG 148

This course will include recognition of the etiology and clinical signs and symptoms of periodontal diseases. The inflammatory process, treatment planning and nonsurgical

DHYG 148
DENTAL HEALTH EDUCATION (2 CR)

Prerequisites: DHYG 121 and no grade below a "C" in DHYG courses Corequisites: BIOL 225 and DHYG 136 and DHYG 140 and DHYG 142 and DHYG 146

Students will study health and apply educational methods for individuals and groups, with special emphasis on behavior modification, compliance, communication and motivation. Exercises in the research process and evaluation research articles are included. 1 hr. lecture, 2 hrs. lab/wk

DHYG 221
CLINICAL DENTAL HYGIENE III (6 CR)

Prerequisites: No grade below a "C" in DHYG courses and DHYG 140 and BIOL 235 and DHYG 142 Corequisites: DHYG 225 and DHYG 230 and DHYG 240

Students will continue development in the areas of patient management, preventive dental hygiene treatment and proficiency in clinical techniques through practical application. Current advances in dental hygiene services will also be introduced. 2 hrs. lecture, 16 hrs. clinic/wk.

DHYG 225
PATHOLOGY (3 CR)

Prerequisites: No grade below a "C" in DHYG courses and DHYG 140 and BIOL 235 Corequisites: DHYG 221 and DHYG 230 and DHYG 240

This course will introduce the students to concepts related to general systemic and oral pathology. General principles of pathology include inflammation, immunity, neoplasia and wound healing. Specific systems will be explained, including cardiovascular, hematopoietic and skeletal systems. Basic pathological

processes of oral conditions, their etiologies and treatments will be discussed. 3 hrs. lecture/wk.

DHYG 230
DENTAL THERAPEUTICS (3 CR)

Prerequisites: No grade below a 'C' in DHYG courses DHYG 140 and BIOL 235 Corequisites: DHYG 221 and DHYG 225 and DHYG 240

This course will introduce the basic principles of drug actions, emphasizing dental-related therapeutics and drugs associated with common systemic disorders, information on the selection of professional products, and principles necessary in administering local anesthesia. 2 hrs. lecture, 2 hrs. lab/wk.

DHYG 240
COMMUNITY DENTAL HEALTH (2 CR)

Prerequisites: DHYG 140 and BIOL 235 and no grade below a "C" in DHYG courses Corequisites: DHYG 221 and DHYG 225 and DHYG 230

Topics will include public health agencies, statistical procedures for critiquing scientific literature, identifying dental needs of different groups and planning dental health education programs. Preventive techniques, health promotion, consumer advocacy and the role of the dental hygienist in public health will be emphasized. Field experience will be included. 1 hr. lecture, 3 hrs. lab/wk.

DHYG 245
NITROUS OXIDE ANALGESIA (1 CR)

Prerequisite: DHYG 230 Corequisite: DHYG 250

This course will concentrate on the principles of administering and monitoring nitrous oxide analgesia. Upon completion of the course, didactic and clinical proficiency in nitrous oxide analgesia will meet certification standards set by state dental boards. 1 hr. lecture, lab/wk.

DHYG 246
CLINICAL DENTAL HYG III-CLINIC (4 CR)

has not gone through curriculum process

DHYG 247
CLINICAL DENTAL HYGIENE IV (2 CR)

A description is not available for this course.

DHYG 248
CLINICAL DENTAL HYGIENE IV-CLI (4 CR)

A description is not available for this course.

DHYG 250
CLINICAL DENTAL HYGIENE IV (6 CR)

Prerequisites: No grade below a "C" in DHYG courses and DHYG 221 Corequisite: DHYG 245

This course will offer continued development of proficiency in clinical techniques and current procedural practices of the dental hygienist with emphasis on self-evaluation. Topics will include ethics, jurisprudence, office management, current dental hygiene issues and preparation for board exams. 2 hrs. lecture, 16 hrs. clinic/wk., 1 hr. board review for first 8 wks.

DHYG 251
CLINICAL DENTAL HYGIENE IV-CLI (1 CR)

A description is not available for this course.

Drafting/CAD/AutoCAD (DRAF)

DRAF 120
INTRODUCTION TO DRAFTING (2 CR)

This course should be taken by students without prior drafting experience. Upon succesful completion of this course, the student should be able to identify and apply the esssential, basic skills neccessary to proceed through the drafting program, including lettering, measuring, geometric construction, sketching, isometrics, orthographic views, dimensioning and auxiliary view. 1 hr. lecture, 3 hrs. lab/wk.

DRAF 123
INTERPRETING MACHINE DRAWINGS (2 CR)

Prerequisite or Corequisite: DRAF 120 or approval of the program assistant dean

This course is a required course in the computer aided drafting and design technology program. Upon successful completion of this course, students should be able to interpret graphics used to fabricate, assemble, maintain and operate the equipment and products of industry. General detail and assembly prints will be evaluated for title block information, general notes, dimensioning, tolerance specification and symbology. Specialized drawings will include cams, gears, numerical control, plastics, sheet metal and instrumentation. 2 hrs. lecture/wk.

DRAF 129
INTERPRTNG ARCHITECT DRAWINGS (2 CR)

This beginning course will explain the fundamentals of interpreting (reading) architectural drawings. Upon successful completion of this course, students should be able to understand plan and elevation views, sections, details, schedules, specifications, symbols and abbreviations found on most residential and commercial construction drawings. 2 hrs./wk.

DRAF 130
INTRO TO CAD CONCEPTS: AUTOCAD (3 CR)

Prerequisite: DRAF 120 or approval of division administrator

This course provides a basic knowledge of AutoCAD. Students will learn to use CAD equipment, including input/output devices and microcomputers as drafting tools. Emphasis will be on a basic understanding of CAD terms and concepts as they are applied in industry. Students will be provided an overview of many of the key features of a major microcomputer CAD package with hands-on experience at a workstation. Basic instruction will be provided on drawing setup, drawing commands, editing commands and screen control. The important concepts of layering, standard symbols and dimensioning will be introduced. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 132
INTRODUCTION TO AUTOCAD LT (3 CR)

This course provides a basic knowledge of computer-aided drafting (CAD). Students will learn basic AutoCAD LT commands and the use of CAD equipment, including input/output devices as drafting tools. The latest version of AutoCAD LT, student version, will be used to cover topics including creating and setting up a drawing, using blocks and wblocks, editing a drawing, saving completed drawings, developing template drawings, printing from paper space, dimensioning, layering, drawing defaults and hatching. This course is for beginning AutoCAD users. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 135
GRAPHIC ANALYSIS (3 CR)

Prerequisite: DRAF 120 and DRAF 130 or approval of assistant dean

This course expands on introductory knowledge in drafting and CAD. Upon

successful completion of this course, the student should be able to solve descriptive geometry problems, locate intersections of geometric shapes and produce developments of geometric shapes. Most assignments in this course will be completed using AutoCAD software. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 140
TOPICS IN CAD I (2 CR)

This course provides training for a specific design application software. Students will learn software commands and terminology. Students will be provided with in-depth coverage of the selected software and be given hands-on experience. Emphasis will be placed on the application of software to industry projects. 2 hrs. lecture, lab/wk.

DRAF 222
MECHANICAL DRAFTING (3 CR)

Prerequisite: Approval of the program assistant dean and DRAF 123 and DRAF 230 Prerequisite and/or Corequisite: MATH 134

Students successfully completing this course should be able to draw details and assembly views of mechanical parts. The types of parts discussed in this class include castings, sheet metal pieces, jigs and fixtures, and gauges. Important concepts include dimensioning, form and position tolerancing, coordinate tolerancing, and calculations related to material allowances and manufacturing. Project assignments will be completed using computer-aided drafting software. 2 hrs lecture, 3 hrs. lab/wk.

DRAF 225
CIVIL DRAFTING (3 CR)

Prerequisite: DRAF 230 or ENGR 131 Corequisite: MATH 134

Upon successful completion of this course, the student should be able to apply drafting techniques used in civil engineering offices. The student will learn to draw civil engineering plans from surveying and engineering data. The student will be able to produce plan and profile drawings, roadway cross sections, earthwork calculations, topographic maps and property maps. The student will use CAD in drawing projects. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 228
INDUSTRIAL DESIGN APPLICATIONS (3 CR)

Prerequisites: CET 211 and DRAF 222 and DRAF 250 and DRAF 252

This course examines industrial systems. Topics include interdisciplinary considerations of manufacturing processes, machine elements, electrical controls and structural design. Systems will include pumping systems or material handling systems. Team project/protocol will be used to develop graphic, ISO and ANSI-approved solutions. Job books and journals for a project are required from all students. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 230
INTERMEDIATE CAD: AUTOCAD (3 CR)

Prerequisites: DRAF 130 or approval of division administrator

This course provides an increased knowledge of autocad as it is used in today's industries. Students will build on their CAD experience by learning new commands and techniques that increase system productivity. Special emphasis will be on developing construction techniques and command usage to increase CAD proficiency. Additional study of standard symbols, layers and editing functions will occur. Concepts covered will include dimensioning variables and styles, attributes and external referencing, as well as paper space and model space, as used in multiple-view drawings. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 231
COMPUTER-AIDED DRAFTING 3-D (3 CR)

Prerequisite: DRAF 230

In this course students will explore the use of computer- aided drafting and design software for the construction of three-dimensional computer models. Emphasis will be on using 3-D software to produce multiple-view drawings. Visualization commands and techniques will be discussed and developed. Topics will include view commands and wire-frame and surface construction, as well as solid modeling. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 232
CAD APPLICAT WORKSTAT ENVIRON (2 CR)

Prerequisite: DRAF 230 or approval of division administrator

This course provides instruction for customizing the CAD workstation and handling files in a network environment. Students will receive instruction in software commands and terminology and be provided with in-depth coverage of customizing the CAD environment and managing CAD data files in a production environment. Emphasis will be on hands-on application of the covered topics. 2 hrs. lecture, lab/wk.

DRAF 233
CAD ADMINISTRATION (2 CR)

This course covers topics necessary for an individual to manage a CAD department in a production environment. Topics include managing CAD data, selecting types of equipment/software and establishing drafting policies and procedures. Also discussed are personnel issues for CAD employees/employers. 2 hrs. lecture/wk.

DRAF 238
ARCHITECTURAL DRAFTING (3 CR)

Prerequisites: DRAF 129 and DRAF 230

This course is an introduction to the production of architectural drawings for residential and commercial construction. Upon successful completion of this course, the student will be able to draw floorplans, sections, elevations, dimensions and schedules and use industry standards. Projects will be completed using CAD software. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 240
INTRODUCTION TO AUTOLISP (2 CR)

Prerequisites: DRAF 230

This course covers techniques for automation of AutoCAD drafting procedures through the use of the AutoLISP programming language. The scope of this course will include basic AutoLISP functions, creation of AutoLISP expressions and program files. It covers basic techniques concepts needed to begin using AutoLISP effectively. 1 1/2 hrs. lecture, 1 hr. lab/wk.

DRAF 242
TOPICS IN CAD II (2 CR)

Prerequisite: DRAF 230 or approval of division administrator

This course provides training for a specific CAD-related software. Students will learn software commands and terminology. Students will be provided with in-depth coverage of the selected software and be given hands-on experience. Emphasis will be on the application of the selected software to industry projects. 2 hrs. lecture, lab/wk.

DRAF 243
ARCHITECTURAL DESKTOP (2 CR)

Prerequisite: DRAF 230 or ENGR 131 or approval of program assistant dean

This course introduces the student to the Architectural Desktop software used by many architectural and engineering design firms. Topics include software

commands, project setup and the design process. Emphasis will be placed on the hands-on application of software to industrial projects. It is recommended that students have previous architectural design knowledge or have taken DRAF 238, Architectural Drafting. 2 hrs. lecture and lab/wk.

DRAF 244
LAND DEVELOPMENT DESKTOP (2 CR)

Prerequisite: DRAF 230 or ENGR 131 or approval of the program assistant dean

This course introduces the student to the Land Development Desktop software used by many land planning, civil engineering and surveying firms. Topics include software commands, project setup and the design process. Emphasis will be placed on the hands-on application of the software to industrial projects. It is recommended that students have previous civil engineering design knowledge or have taken DRAF 225, Civil Drafting. 2 hrs. lecture and lab/wk.

DRAF 245
MECHANICAL DESKTOP (2 CR)

Prerequisite: DRAF 230 or ENGR 131 or approval of the program assistant dean

This course introduced the student to the Mechanical Desktop software used by many industrial and mechanical design firms. Topics include software commands, project setup and the design process. Emphasis will be placed on the hands-on application of the software to industrial projects. It is recommended that students have previous mechanical engineering design knowledge or have taken DRAF 222, Mechanical Drafting. 2 hrs. lecture and lab/wk.

DRAF 250
ELECTRICAL DRAFTING (3 CR)

Prerequisites: MATH 133 and DRAF 230 or ENGR 131

Upon successful completion of this course, the student should be able to identify drafting techniques applicable to industrial lighting, motor controls, power distribution and generation. Emphasis will be on the use of tables, catalogs and applications software as aids to decision making required on electrical drawings. Project assignments will be completed primarily using CAD. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 252
STRUCTURAL DRAFTING (3 CR)

Prerequisites: DRAF 230 or ENGR 131 Corequisite: MATH 134

Upon successful completion of this course, the student should be able to produce structural drawings and details of steel, concrete and wood structures for manufacturing, construction, engineering and architectural firms. Project work will be done using CAD. 2 hrs. lecture, 3 hrs. lab./wk.

DRAF 261
GRAPHIC COMM I/INTERIOR DESIGN (3 CR)

Upon successful completion of this course, the student should be able to interpret residential drawings, draft architectural drawings and use industry references. Drawings studied include floor plans, exterior elevations, interior elevations, sections, details and schedules. In addition to workbook assignments, student will draft on coldpress board, vellum and plastic film. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 264
CAD:INTERIOR DESIGN (3 CR)

Corequisite: ITMD 122 or approval of division administrator

This course is an introduction to the use of computer aided drafting (CAD) as used in the interior design field. Upon successful completion of this course, the student should be able to draw floor plans and elevations of interiors using a computer-aided drafting system. AutoCAD LT software will be used. No previous

computer experience is required. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 266
GRAPHIC COMM II/INTERIOR DESGN (3 CR)

Prerequisite: DRAF 261

Upon successful completion of this course, the student should be able to draft three-dimensional representations of interior spaces, furniture, window treatments and decorative accessories. One-point and two-point perspective drawing, isometric drawing and perspective grids are covered. Student will draft in pencil on vellum and ink on mylar. 2. hrs, lecture, 3 hrs. lab/wk.

DRAF 271
DRAFTING INTERNSHIP I (3 CR)

Prerequisite: Approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students the opportunity to develop job- and career-related skills while in a work setting. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 15 hrs. min./wk.

DRAF 272
DRAFTING INTERNSHIP II (3 CR)

Prerequisites: DRAF 271 and approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students the opportunity to develop job- and career-related skills while in a work setting. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals.15 hrs. min./wk.

Economics (ECON)

ECON 130
BASIC ECONOMIC ISSUES (3 CR)

Upon successful completion of this course, the student should be able to use basic economic theory, concepts and nomenclature to analyze current economic issues at the local, national and international levels. This course is primarily for students who take only one economics course and for those who want a nontechnical introduction to economics. 3 hrs. lecture/wk.

ECON 132
SURVEY OF ECONOMICS (3 CR)

Upon successful completion of this course, the student should be able to explain basic macroeconomic and microeconomic theory, fiscal and monetary policies, the role and significance of international economics and government trade and regulatory policies. In addition, the student should be able to describe the characteristics and consequences of the differing business units in the economy, as well as the functioning of the labor market and how national income is distributed. The course is primarily for students who desire a one-semester, nontechnical overview of the basic components of macroeconomic and microeconomic theory and the functioning of the United States economy. 3 hrs. lecture/wk.

ECON 230
ECONOMICS I (3 CR)

Upon successful completion of this course, the student should be able to use economic terminology and principles to explain and discuss basic macroeconomic

concepts, including supply of and demand for products, national income determination, money and banking, and monetary and fiscal policy. The student enrolling in this course should have successfully completed one year of high school algebra or the equivalent. (Macro) 3 hrs./wk.

ECON 231
ECONOMICS II (3 CR)

Upon successful completion of this course, the student should be able to use economic terminology and principles to explain and discuss basic microeconomic concepts, including extended analysis of product supply and demand and theory of the firm and product and resource market structures. Students enrolling in this course should have successfully completed one year of high school algebra or the equivalent. (Micro) 3 hrs./wk.

Education and Early Childhood (EDUC)

EDUC 121
INTRODUCTION TO TEACHING (3 CR)

Note: For elementary and secondary education only.

Teaching concepts and practices as they apply to today's elementary and secondary schools will be introduced. Topics will include the roles and responsibilities of the teacher, various modes of instruction, specialized areas in teaching, and professional requirements and concerns. Twenty hours of observation in a school setting are required. 3 hrs./wk.

EDUC 130
FOUNDATIONS EARLY CHILD EDUC (3 CR)

This introductory survey course is designed to provide students with current information on topics relevant to employment in early childhood programs. The course explores the historical and philosophical roots of early childhood education, general principles in child development, the teacher's role, values and ethics in early childhood education, curriculum design, and classroom management. Twenty hours of observation in a group child care setting are required. 3 hrs. lecture/wk.

EDUC 131
EARLY CHILDHOOD CURRICULUM I (3 CR)

Prerequisite or corequisite: EDUC 130

This methods course is designed for students who are, or will be, working in an early childhood education setting and parents or others who desire to develop an intellectually challenging environment for young children. The focus of the course is curriculum areas that deal with language and physical development. 3 hrs. lecture/wk.

EDUC 205
CONCEPTS/EARLY CHILDHOOD EDUC (3 CR)

Prerequisite or corequisite: EDUC 130 for certificate only

This course will provide early childhood care and education professionals, and those aspiring to the profession, with the opportunity to apply early childhood education experience and continuing professional education to college credit. Students will gain and apply knowledge in many aspects of teaching young children in child-care and educational settings. The student will spend seven hours a week (105 clock hours total) in a supervised practical experience at the Hiersteiner Child Developments Center at JCCC and will complete 1.5 CEUs in early childhood education. Credit for prior experience may be substituted for completing this course. The program facilitator must assess the documents (i.e., CDA) provided by the student and/or arrange and evaluate the practical experience before offering credit for this course. Completion of an application for this credit is required and may be obtained from the program facilitator. For

certificate only. 3 hrs. lecture/wk.

EDUC 210
CREATIVE EXPERIENCES FOR CHILD (3 CR)

Prerequisite: EDUC 130 and one of the following: PSYC 215 or PSYC 218 or EDUC 270

This course is a study of constructing and maintaining an environment for young children that fosters aesthetic sensitivity and creativity. The course includes the young child's developmental stages in art, music, movement, language, and creative and dramatic play; methods and materials that nourish developmentally appropriate creative experiences and support an inclusive, anti-bias curriculum; integration of creative experiences in the whole curriculum; the use of technology; and helping families understand the creative experience. 3 hrs. lecture/wk.

EDUC 215
YOUNG CHILDREN/SPECIAL NEEDS (3 CR)

This course is a study of creating and maintaining a developmentally appropriate inclusive environment for young children with special needs. The course includes the history of education and care for young children with special needs, federal and state legislation, types of differing abilities, developmental stages and capabilities of all young children, an inclusive approach to early education, and curriculum development for young children with special needs. Health, safety and nutrition; screening and assessment; interaction techniques; the role of the educator specific to the child's special needs; partnering with the family, other disciplines and community; and advocating for children are presented. The laboratory will include demonstration of the subject matter. 2 hrs. lecture, 3 hrs. lab/wk.

EDUC 220
SURVEY OF EXCEPTIONAL CHILD (3 CR)

This course is an overview of the field of special education geared to those who are preparing to work with students with special needs. The course provides fundamental information on the identification and exceptionality, laws and legal cases affecting the delivery of services to individuals with exceptionalities and the principles of effective educational approaches for each exceptionality. Categories of exceptionality presented include: learning disabilities, mental retardation, behavior disorders, gifted and talented, communication disorders, autism, traumatic brain injury, physical disabilities, sensory impairments, other health impairments and multiple and severe disabilities. 3 hrs./ wk.

EDUC 225
INFANT/TODDLER EDUCATION &CARE (3 CR)

Prerequisite: EDUC 130

This course is a study of creating and maintaining a developmentally appropriate environment for infants and toddlers. The course will include the history of education and care, theories of child development, developmental stages and capabilities of the very young child, and curriculum development for infants and toddlers. Health, safety and nutrition; assessment; interaction techniques; the role of the educator specific to the needs of the infant and toddler; partnering with family and community; and advocating for the very young are presented. The laboratory will include demonstration of the subject matter. 2 hrs. lecture, 3 hrs. lab/wk.

EDUC 231
EARLY CHILDHOOD CURRICULUM II (3 CR)

Prerequisite: EDUC 131

This methods course is designed for students who are, or will be, working in an early childhood education setting and parents or others who desire to develop an intellectually challenging environment for young children. The focus of the course is on curriculum areas that deal with the physical and social aspects of the world. Included in this inquiry curriculum are mathematics, science, social studies and

nutrition. 3 hrs. lecture/wk.

EDUC 235
PARENTING (2 CR)

Prerequisite or corequisite: PSYC 215 or PSYC 218 or EDUC 270

This course is a study of effective parenting. The course is designed for teachers of young children and parents and guardians who desire to provide an environment that reflects sensitivity to the unique needs of the individual child and family. Topics covered during the course are the history of child-rearing methods, an overview of child development, types of families, parent/guardian fears and concerns, purposes of child behavior, and effective communication techniques. Problem prevention and resolution, nurturing self-esteem in children and building effective, collaborative relationships between teachers and families are also covered. 2 hrs. lecture/wk.

EDUC 240
SCHOOL AGE PROGRM/CURRICULUM I (3 CR)

Prerequisite: EDUC 130

This methods course is designed for students who are, or will be, working in an early childhood education setting and parents and caregivers who desire to develop an intellectually challenging environment for school age children. The focus of the course is on curriculum areas the school-aged child and extended day and summer programs. 3 hrs. lecture/wk.

EDUC 245
SCHOOL-AGE PROGRAMS/CURRIC II (3 CR)

Prerequisite: EDUC 240

The student will study the creation and maintenance of a developmentally appropriate environment for school-age children in extended school day and summer programs. The student will acquire the skills and characteristics of effective educators.The student will explore types of programs and how to plan, implement and evaluate these programs. Also, staff supervision and development, record keeping, relevant state regulations and laws will be discussed. Collaboration with family and community, public relations and contributing to the profession will be studied. The lab will include demonstration of the subject matter. 2 hrs. lecture, 3 hrs. lab/wk.

EDUC 250
CHILD HEALTH,SAFETY/NUTRITION (3 CR)

This course is a study of the basic health, nutrition and safety management practices for young children. Information on establishing and maintaining a physically and psychologically safe and healthy learning environment appropriate for the needs of young children will be included. The interrelation of health, safety and nutrition is stressed, with emphasis on appraisal procedures, prevention and protection, services and educational experiences for young children and their families. 3 hrs. lecture/wk.

EDUC 260
OBSERVE & INTERACT W/YNG CHILD (3 CR)

Prerequisite or corequisite: PSYC 215 or PSYC 218 or EDUC 270

This course is a study of the role of observation to assess and monitor the development and learning of children, birth through age 8, and the appropriate techniques for interacting with young children, considering their individual differences. Included will be the purposes and types of observation procedures, interpretation and use of findings, reporting techniques, and legal and ethical responsibilities. Expected age-related child behavior, fundamental principles of and theoretical approaches to child guidance, guidance techniques, working with families, and issues of diversity are presented. The laboratory will include demonstration of the subject matter. 2 hrs. lecture, 3 hrs. lab/wk.

EDUC 270
EARLY CHILDHOOD DEVELOPMENT (3 CR)

This course is a comprehensive account of human development from conception though age 8. The course integrates genetic, biological, physical and social influences with psychological processes affecting the development of young children. 3 hrs. lecture/wk.

EDUC 280
ADMINISTRAT/EARLY CHILDHD PROG (3 CR)

This course is a study of the organization and administration of early childhood programs. The topics include the skills and characteristics of effective administrators; types of programs; planning, implementing and evaluating programs; policy development; staff supervision and development; finances and budget; record keeping; relevant state regulations and laws; developing, equipping and maintaining a facility; organizing a developmentally appropriate environment; collaboration with family and community; public relations; and contributing to the profession. The lab will include demonstration of the subject matter. 2 hrs. lecture, 3 hrs. lab/wk.

EDUC 284
SEMINAR:EARLY CHILDHOOD EDUC (3 CR)

Corequisite: EDUC 285

The course will focus on conduct and responsibilities of the intern; early childhood codes, laws and regulations; child development; activity planning and curriculum development; observation and guidance of young children; authentic assessment; responsibilities to the young child's family and community and to the teaching profession; employability skills; self- assessment; and job-seeking skills. The student's practical application of information in the internship will be discussed, and a portfolio will be developed. 3 hrs. lecture/wk.

EDUC 285
INTERNSHIP:EARLY CHILDHOOD (3 CR)

Prerequisite: Program facilitator recommendation. Corequisite: EDUC 284

This supervised field experience in early childhood education is designed for students to apply their knowledge of teaching young children. The student will participate in curriculum design and presentation; observing and interacting with young children; providing for the health, safety and nutrition of young children; the general management of a program setting; and working with families and the community. A self-assessment and a professional development plan are completed. The student will spend 20 hours a week (320 clock hours total) in at least two different early childhood settings, serving children of two different ages.

Electrical Technology (ELTE)

ELTE 122
NATIONAL ELECTRICAL CODE I (4 CR)

This is an introductory course on the use and interpretation of the current National Electrical Code. Students should develop a working knowledge of the code that will permit them to apply it to everyday applications. Upon successful completion of this course, the student should be able to use the code to design service entrances, feeders and branch circuits and discern between wiring methods used in difference occupancies. 4 hrs. lecture /wk.

ELTE 123
ELECTROMECHANICAL SYSTEMS (4 CR)

Upon successful completion of this course, the student should be able to identify electrical components and their relationships to the various repair and troubleshooting techniques. The materials in this course will prove useful to service technicians whose background in electricity is limited. The course

includes material from basic electrical theory to troubleshooting complex electrical circuits. This course will provide practice in the application of electrical theory as well as in the interconnection of components of heating and cooling systems. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. This is a beginning course in electrical theory that is required for HVAC, electrical and power plant technology but is appropriate for all interested students. Common components found in the HVAC industry are used to develop these skills. 3 hrs. lecture, 3 hrs. lab/wk.

ELTE 125
RESIDENTIAL WIRING METHODS (4 CR)

Prerequisite or corequisite: HVAC 123 or ELTE 123

This is an introductory course on residential wiring methods that includes practical application and hands-on experience in implementing the code requirements. Upon successful completion of this course, the student should acquire the necessary skills to wire a residence to meet the minimum requirements as set forth in the current National Electrical Code for residential occupancies. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

ELTE 200
COMMERCIAL WIRING METHODS (4 CR)

Prerequisite: HVAC 123 or ELTE 123

This advanced course covers commercial wiring methods. Upon successful completion of this course, the student should be able to read commercial blueprints and apply the current National Electrical Code to commercial wiring systems. The student will gain working knowledge and hands-on experience with commercial wiring techniques. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

ELTE 205
INDUSTRIAL ELECTRICAL WIRING (4 CR)

Prerequisite: ELTE 125 or ELTE 200 or ELTE 122

This advanced course covers industrial wiring methods. Upon successful completion of this course, the student should be able to read industrial blueprints and apply the current National Electrical Code to industrial wiring systems. The student will gain working knowledge and hands-on experience with industrial wiring techniques. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

ELTE 210
CODE CERTIFICATION REVIEW (3 CR)

Prerequisite: ELTE 122

Upon successful completion of this course, the student should be able to use the current National Electrical Code to do calculations involving loads, lighting and circuit sizing. The course will cover typical load calculations used in both residential and commercial settings. 3 hrs. lecture/wk.

ELTE 215
GENERATORS,TRANSFORMERS&MOTORS (4 CR)

Prerequisites: ELTE 123 and one of the following: ELTE 122 or ELTE 125 or ELTE 200 or equivalent experience and division administrator's approval

This is an advanced course on the use of generators, transformers and motors. Upon successful completion of this course, the student should be able to interpret and apply the rules of the current National Electrical Code to wiring systems composed of these electrical components. Also, the student will gain a working knowledge of the theory of these single-phase and 3-phase electrical components and their practical applications in everyday use in the electrical industry. 4 hrs.

lecture/wk.

ELTE 271
ELECTRICAL INTERNSHIP I (3 CR)

Prerequisite: Approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

ELTE 272
ELECTRICAL INTERNSHIP II (3 CR)

Prerequisites: ELTE 271 and approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

Electronics (ELEC)

ELEC 120
INTRODUCTION TO ELECTRONICS (3 CR)

This is a beginning course in electronics technology that is appropriate for both electronic majors and other interested students. An overview of basic electronic theory, principles and components is presented. In addition, the laboratory exercises will emphasize the operation and use of the primary pieces of electronic test equipment and the fabrication of selected circuits. 2 hrs. lecture, 2 hrs. lab-lecture, 2 hrs. lab/wk.

ELEC 122
CIRCUIT ANALYSIS I (3 CR)

Prerequisites: ELEC 120 and MATH 133 or MATH 172

This course covers resistive circuits having DC sources. Analysis topics include Ohm's law, Kirchoff's law, the superposition theorem, Thevenin's theorem and Norton's theorem. The current, voltage and resistance relationships in series, parallel and combination circuits will be studied. 3 hrs. lecture/wk.

ELEC 124
MICROCOMPUTER HARDWARE (3 CR)

This is an introductory course on personal computer hardware. The course will include topics necessary to prepare students to buy, optimize, upgrade and maintain personal computers. Course topics will be supported by laboratory projects. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 125
DIGITAL ELECTRONICS I (4 CR)

This is a beginning course in which students will study and practice the basic concepts of digital electronics. Topics will include digital number systems, logic gates, logic circuits, flip-flops, digital arithmetic, counters and registers. 3 hrs. lecture, 3 hrs. lab/wk.

ELEC 130
ELECTRONIC DEVICES I (4 CR)
Prerequisite or corequisite: ELEC 140

This is the first course in electronic devices. Topics include diodes and transistors, special purpose diodes and diode application circuits. Both bipolar junction transistors (BJTs) and field effect transistors (FETs) are examined and application circuits for both transistor types are constructed. 3 hrs. lecture, 3 hrs. lab/wk.

ELEC 131
INTRO/SENSORS AND ACTUATORS (3 CR)

This course examines types and uses of industrial sensors and actuators. Topics include temperature, pressure, optical, position and flow sensors. Operation of AC and DC motor drives will also be covered. The course will also include wiring and troubleshooting of sensors and actuators. Lecture topics will be supported by hands-on lab projects. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 133
PROGRAMMABLE CONTROLLERS (3 CR)

This is an introductory course in programmable logic controllers. The course is designed for individuals without extensive electrical or controller backgrounds. Hardware aspects and programming aspects of controller operation are covered. The foundational controller logic symbols and controller logic operations necessary to interpret and write ladder logic programs are taught in this class. Students will enter, edit and test controller programs through assigned laboratory projects. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 140
CIRCUIT ANALYSIS II (3 CR)
Prerequisites: ELEC 122 and MATH 134 or MATH 172 or MATH 173

The analysis techniques presented in Circuit Analysis I will be applied to complex circuits driven by AC and pulsed sources. The responses of circuits having resistance, inductance and capacitance will be analyzed. Other topics include transformers and electrical filters. 3 hrs. lecture/wk.

ELEC 150
INTRO TO TELECOMMUNICATIONS (3 CR)

This is an introductory-level course in telecommunications principles that includes both voice and data communications. An examination of the communications industry and its regulatory environment will be provided. Topics include voiceband communications, digital transmission, switching and signaling, and emerging technologies. 3 hrs. lecture/wk.

ELEC 165
ADV PROGRAMMABLE CONTROLLERS (3 CR)
Prerequisite: ELEC 133

This course is a continuation of ELEC 133. Principle topics include sequences, file and block transfers, analog control and PID functions. In addition, methods of networking of PLCs and advanced user interfaces will be covered. Lecture topics will be supported by laboratory projects. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 175
TELECOMMUNICATIONS (3 CR)
Prerequisite or corequisite: ELEC 130

This course studies hardware and software functions of telecommunication systems. Topics include both voice and data aspects of telecommunication, systems, including terminology, interfaces, protocols, transmission media, networks and networking technologies. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 185
LAN CABLING AND INSTALLATION (3 CR)

This course is designed to provide specialized skills for installing and testing local area network cabling and wireless installation. Twisted-pair, coax and fiber cables will be introduced and contrasted based on their characteristics and applications. Laboratory exercises for terminating and testing network cables and installing wireless systems will accompany the lectures. Students will be trained on how to use common wiring tools and testing instruments. Methods of documenting LAN systems will also be introduced. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 225
DIGITAL ELECTRONICS II (3 CR)
Prerequisite: ELEC 125

Students will continue their study of digital concepts and will learn how to build digital circuitry using digital integrated circuit chips and basic concepts of computer organization. In additional, emphasis will be placed on learning how to troubleshoot digital circuits and digital systems. Each student will build a digital computer through a series of laboratory projects. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 230
ELECTRONIC DEVICES II (3 CR)
Prerequisite: ELEC 130

This class is a continuation of the electronic devices sequence. Topics include operational amplifiers, thyristors and voltage regulators. Operational amplifier applications include comparators, summing amplifiers, integrators, differentiators and active filters. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 240
ELECTRONIC COMMUNICATION SYSTS (4 CR)
Prerequisite or corequisite: ELEC 230

This course provides a study of electronic communication systems. Topics include the electromagnetic spectrum, decibels, noise, amplitude modulation, antennas, transmission lines and the global positioning satellite system. 3 hrs. lecture, 3 hrs. lab/wk.

ELEC 245
MICROPROCESSORS (3 CR)
Prerequisite: ELEC 225

This course provides students with a basic knowledge of microprocessors and how microprocessors interface with other devices to create microcomputer systems. Students will learn how to write assembly language and machine language programs for a microprocessor as well as how to interface memory, input devices and output devices to a microprocessor. Additionally, emphasis will be placed on learning how to troubleshoot microprocessor- based systems. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 250
MICROCOMPUTER MAINTENANCE (3 CR)
Prerequisite: ELEC 124

This course is a continuation of the study of personal computers and will further the student's ability to maintain and repair them. In addition, this course will assist the student in preparing for computer-maintenance certification. Topics will include interaction of hardware and operating systems, resource conflicts, networking capabilities, common hardware and software problems, hardware differences of portable computers, and upgrading computers. The course topics will be supported by laboratory projects. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 271

ELECTRONICS INTERNSHIP I (1 CR)

Prerequisite: Approval of division administrator

This course affords the student the opportunity to apply classroom knowledge to an actual work environment. It will provide selected advanced electronics technology students with appropriate on-the-job experience with area employers, under instructional oversight, that will promote the student's career goals. 18 hrs. approved and appropriate work activity/wk.

ELEC 272
ELECTRONICS INTERNSHIP II (1 CR)

Prerequisites: ELEC 271 and approval of the division administrator

This course is a continuation of ELEC 271. It affords the student the opportunity to apply classroom knowledge to an actual work environment. It will provide selected advanced electronics technology students with appropriate on-the-job experience with area employers, under instructional oversight, that will promote the student's career goals. 18 hrs. of approved and appropriate work activity/wk.

Emergency Medical Science/MICT (EMS)

EMS 121
CPR I-BASIC LIFE SUPPORT HC PR (1 CR)

This course provides an overview of the cardiovascular and respiratory systems, a discussion of medical and environmental emergencies leading to the need for CPR,and introduction to diagnostic signs and triage, as well as insight into the structure and function of the emergency medical services system. The most current practical CPR skills will be taught, including CPR, AED, and airway obstruction techniques for adults, children and infants. Upon successful completion of all American Heart Association standards, the student will receive affirmation at the Healthcare Provider level. 4 hrs. lecture, lab/wk. for 5 wks.

EMS 125
CPR II-BASIC CPR INSTRUCTOR (1 CR)

Prerequisite: Successful completion of EMS 121 and/or current certification by AHA as Basic Rescuer

This class will include a review and affirmation of Basic Rescuer techniques, practice in the design and implementation of CPR courses, demonstration of manikin maintenance and decontamination procedures, and mini-lectures. Upon successful completion of this class, students will be eligible for affirmation by the American Heart Association as a BLS instructor. Each participant must teach or co-teach a CPR class while being monitored by an AHA faculty member before the instructor affirmation card will be issued. 2.5 hrs. lecture, lab/wk. for 8 wks. (average).

EMS 128
EMS FIRST RESPONDER (5 CR)

This course is designed to provide training in emergency medical care for those who are apt to be the first persons responding to an emergency incident. Fire, police, civil defense personnel, school bus drivers, day- care providers, utility workers and industrial workers are a few examples of those persons who would benefit from this training. The student will receive both didactic and psychomotor skills training in CPR, patient assessment, fracture management, airway management and trauma management. Successful completion of this course will enable the student to sit for the First Responder certification exam administered by the Kansas Board of Emergency Medical Services. 6 hrs. lecture, 6.5 hrs. lab/wk. for 8 wks. (average).

EMS 130
EMERGENCY MEDICAL TECHNICIAN (9 CR)

Prerequisite: EMS 128 or equivalent, or be an active member in a health-related

occupation (firefighter, rescue, ambulance, law enforcement, industrial first-aid personnel or other health-related field), or attained the minimum of an associate's degree

This program is designed for individuals interested in providing medical care to patients in the pre-hospital setting. It will provide the participants with opportunities to gain information, skills and attitudes necessary for certification and practice as an emergency medical technician (EMT) in the State of Kansas. This program has been approved by the Kansas Board of Emergency Medical Services (BEMS). It addresses information and techniques currently considered the responsibility of the EMT according to the United States Department of Transportation, National Standard Curriculum. The program consists of didactic instruction, practical skill training and clinical experience. Attendance at one Saturday session is required. Saturday date and time will be announced during the first class session. Classroom instruction includes anatomy, physiology, recognition and care of medical emergencies, and trauma-related injuries. CPR, bandaging, splinting, childbirth techniques and airway management are among the skills taught. An extrication session will give students hands-on experience with automobile accident situations. Upon instructor recommendation, students will participate in clinical and field observation. All transportation to and from off-campus sites is the responsibility of the student. Students completing this course with a minimum grade of "C" will be allowed to sit for the Kansas EMT State Certification Examination administered by the BEMS. 7 hrs. lecture, 4 hrs. lab/wk. (average)

EMS 133
EMT PRACTICUM (3 CR)

Prerequisite: EMS 130 or equivalent and a copy of current EMT-B card.

EMT Practicum is designed to give the newly certified EMT-B the additional skills and confidence needed to successfully compete for a position as an EMT-B with an EMS service. Skills will include ambulance operation, driving, map reading, insurance billing and unit maintenance. This course will also provide high-fidelity scenario training in all aspects of the EMS call as well as extensive field lab time with a local EMS service. Students will participate in realistic medical emergency scenarios with "actors" playing life-like patients and bystanders as well as numerous field internship shifts on a licensed ambulance. Students will work through all phases of an ambulance call. They will be presented with complex patient care situations that require the development of critical thinking and decision-making skills. Students will be tested on their ability to lead a team of pre-hospital caregivers in the diagnosis, proper treatment and evacuation of a patient. Scenario simulations will be set up to be as life-like as possible. 2 hrs. lecture, 10 hrs. lab/wk.

EMS 140
BASIC CARDIOLOGY & EKG RECOGN (3 CR)

Prerequisites: Prospective students should be certified in a health profession, i.e. EMT, RN, LPN, EMT-P. Permission of the academic director is required.

The health care worker with an understanding of ECG tracing will function more effectively when providing care for the cardiac patient. Increasing numbers of professionals are being called upon to utilize ECG tracing in their work settings, but without adequate knowledge of its use. This course will serve as both continuing education and the preparation for the job entry and/or job advancement. During the course, students will learn to apply monitoring and 12-lead electrodes, diagnose ECG dysrhythmias and infarct locations, treat ECG dysrhythmias, and defibrillate ventricular fibrillation. 3 hrs. lecture/wk.

EMS 203
KS EMT-I/D (11 CR)

Prerequisites: EMT-B and additional prerequisite and/or documentation requirements. See academic director for details.

This course will cover selected advanced emergency medical care concepts and practices. This intermediate- level course advances the basic emergency medical technician's knowledge and skills in patient assessment, airway management, intravenous cannulation and manual defibrillation. The KS EMT-I/D's knowledge and skills are intermediate between the EMT-Basic and the EMT-Paramedic.

Upon successful completion of this course, the student will be able to utilize the assessment findings to formulate a field impression and implement the treatment plan for the patient suffering a medical or trauma emergency. As the KS-EMT-I/D demonstrates cognitive and motor skill competency in the classroom and skills laboratory, his or her training will proceed to the clinical and field environments, where the knowledge, skills and attitudes necessary for professional practice will be practiced, synthesized and perfected. 7 hrs. lecture, 5 hrs. lab, 10 hrs. clinical/field experience/wk.

EMS 210
EMS INSTRUCTOR COORDINATOR (5 CR)

Prerequisites: Prospective students must meet all the requirements for selection as set forth by the Kansas Board of Emergency Medical Services, which includes certification as a care provider, documentation of pre-hospital experience and successful completion of the BEMS pre-selection process.

This course covers the basic tenets of adult education as they apply to teaching emergency medical services provider courses. Students are oriented to all Kansas requirements for conducting initial courses of instruction for ambulance attendants. Successful completion will be the first step toward certification as a Kansas EMS instructor coordinator. This program has been approved by the Kansas Board of Emergency Medical Services (BEMS). It addresses information and techniques currently considered the responsibility of the EMT-IC according to the United States Department of Transportation, National Standard Curriculum. 5 hrs. lecture-demonstration/wk. for 8 wks.

EMS 220
MICT I (10 CR)

Prerequisite: Admission to the MICT program

MICT I is the first of four courses in advanced out-of- hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. In this narrowly focused but intense foundational course, the paramedic student will gain a significant knowledge of patient assessment, pharmacology and medication administration techniques, electrocardiography, advanced airway management, and paramedic scope of practice. Much material will be covered rapidly, and emphasis is on organization, internalization and synthesis of the basic knowledge of the discipline in this 9-week course. Additionally, during the initial psychomotor teaching labs, students will gain the ability to assess patients, administer medications, treat dysrhythmias and manage the airway through manikin practice. 24 hrs. lecture/wk.

EMS 225
MICT II (10 CR)

Prerequisite: EMS 220 with a minimum grade of "C"

MICT II is the second of four courses in advanced out-of- hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. This course builds on the foundational knowledge developed in MICT I and covers advanced management of medical and trauma emergencies in the out-of-hospital environment. Much material will be covered rapidly, and emphasis is on organization, internalization, synthesis and application of the basic knowledge of the discipline in this 9-week course. Students demonstrate competency at motor skill performance, and extensive simulation practice is afforded. Students begin field observation with a paramedic ambulance crew and complete an Advanced Cardiac Life Support Course. 24 hrs. avg. lecture/wk., 12 hrs. lab/field observation avg./wk.

EMS 230
MICT III CLINICALS (12 CR)

Prerequisite: EMS 225 with the minimum grade of "C"

MICT III is the third of four courses in advanced out-of- hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. During MICT III, paramedic students have the opportunity to take the knowledge and skills gained in MICT I and II and apply them in actual

supervised clinical practice. MICT III represents a brief, intense 14-week course in which knowledge and skills are synthesized and applied to patients under supervision of physicians and nurses in clinical practice in the emergency department, critical care unit, surgery/ recovery room, labor/delivery room, pediatric emergency department and burn center. Field observation lab and classroom and laboratory review are included as well. 4 hrs. lecture avg./wk., 44 hrs. clinical/lab/field avg./wk.

EMS 271
MICT IV FIELD INTERNSHIP (15 CR)
Prerequisite: EMS 230 with a minimum grade of "C"

MICT IV is the final of four courses in advanced out-of- hospital emergency medical care leading to the opportunity to sit for the National Registry Examination for Paramedics. During MICT IV, paramedic students have the opportunity to take the knowledge and skills gained in MICT I, II and III and apply them in an actual practice environment. MICT IV represents an intense 4-month course in which knowledge, skills and professional behaviors are synthesized and applied to victims of sudden trauma or medical emergencies under supervision of paramedic preceptors at the emergency scene and in the ambulance. Entry-level competence into the profession is demonstrated as the student demonstrates the ability to assess the scene and the patient, develop a plan for therapeutic intervention as well as scene management, and effectively lead the out-of-hospital resuscitation team's effort. Classroom and laboratory review are included. 4 hrs. lecture avg./ wk., 56 hrs. clinical/lab/field avg./wk.

Engineering (ENGR)

ENGR 121
ENGINEERING ORIENTATION (2 CR)

Upon successful completion of this course, the student should be able to describe careers in engineering and use fundamental concepts in engineering problem solving. Topics include engineering disciplines, aptitude and academic requirements, professional responsibilities, problem definition and solution, engineering design, and terminology. Students will meet professional engineers during field trips to engineering companies and work sites. The primary intent of this course is to introduce students to the engineering problem-solving process and to help each student make the best career decision. 2 hrs. lecture/wk.

ENGR 131
ENGINEERING GRAPHICS I (4 CR)
Corequisite: MATH 133 or MATH 171 or MATH 172 or MATH 173 or MATH 241

Upon successful completion of this course, the student will be able to apply graphic principles used in the engineering design process. The student will master graphics concepts using computer-aided drafting (CAD) software. Topics include 2-D and 3-D CAD commands; geometric construction; multi-view, orthographic projection; sectional views; isometrics; dimensioning; and descriptive geometry. 3 hrs. lecture, 4 hrs. lab/wk.

ENGR 171
PROGRAMMING FOR ENGR & SCIENCE (3 CR)
Prerequisite: MATH 171

At the completion of this course, the student should be able to design algorithms for the solution of engineering and science problems using pseudocoding and flowcharting techniques; code the solution in the FORTRAN programming language; and compile, test and debug the program. Programming concepts covered will include data input from the keyboard and data files, formatted output, sequence, selection and iteration structures, function and subroutine subprograms and array processing. Proficiency with conversions and math in the decimal, binary and hexadecimal numbering systems will also be attained. This is a beginning course that will prepare students for more advanced studies in engineering and science computer applications. 2 hrs. lecture, 2 hrs. lab/wk.

ENGR 180
ENGINEERING LAND SURVEYING I (3 CR)

Corequisite: MATH 134 or MATH 172

Upon successful completion of this course, the student should be able to identify the basic applications of plane surveying procedures; measurement of horizontal distances, directions, angles, leveling, traversing, curves and stadia coordinates; computations with the aid of a computer; and topographical property and construction surveying. Students will take part in field operations using equipment such as auto levels, theodolites, EDM and total station. 2 hrs. lecture, 3 hrs. lab/wk.

ENGR 251
STATICS (3 CR)

Prerequisite: MATH 242 Corequisite: PHYS 220

Upon successful completion of this course, the student should be able to describe and predict the conditions of rest and motion of bodies under the action of forces. The principles used will include vectors, force systems, equilibrium, free body diagram, centroids, moments of inertia, trusses, frame, and shear and moment diagrams. 3 hrs. lecture/wk.

ENGR 254
DYNAMICS (3 CR)

Prerequisites: ENGR 251

Upon successful completion of this course, the student should be able to apply the principles of dynamics, the branch of engineering mechanics that studies objects in motion. Topics covered will include unbalanced force systems (Newton's second law), displacement, velocity and acceleration, work and energy, and impulse and momentum. Computer applications will be included. 3 hrs. lecture/wk.

English (ENGL)

ENGL 100
ENGLISH AS A SECOND LANG I (3 CR)

Prerequisite: Appropriate assessment score

This course provides basic instruction in speaking and listening, writing and grammar for students who are non-native English speakers. Students will learn to converse, write and give oral presentations in an integrated setting. The course includes conversations and dialogs, written compositions, grammar and editing practice, and oral reports. This course is for beginner to intermediate-level ESOL students. 3 hrs./wk. This course does not fulfill degree requirements.

ENGL 101
ENGLISH AS A SECOND LANG II (3 CR)

Prerequisite: ENGL 100 or appropriate assessment score

This course provides integrated instruction in speaking, listening, writing and grammar for students who are non-native English speakers. Students will learn to converse clearly, write effectively and correctly, and summarize orally. This course will include conversations and dialogs, short written compositions and essays, grammar and proofreading practice, and oral presentations based on readings. This course is for intermediate and advanced-level ESOL students. 3 hrs./wk. This course does not fulfill degree requirements.

ENGL 102
WRITING STRATEGIES (3 CR)

Prerequisite: Appropriate placement test score

This course assists the student in developing strategies for sentence writing. The

course is designed to meet a variety of learning styles, levels and needs. Students will develop strategies for self-monitoring errors in written products. Students are taught strategies for writing a variety of sentence formats and have extensive practice in writing sentences as a means of implementing new information. 3hrs./wk. This course does not fulfill degree requirements.

ENGL 103
PRACTICAL WRITING SKILLS (1 CR)

At the completion of this course, the student should be able to recognize and write complete sentences. The student will write a variety of sentences using strategies for building sentences with phrases and clauses as well as editing sentences through coordination and subordination. The student will then practice developing paragraphs in various organizational modes. Along with writing the student will read selected prose and write responses to these readings. The course is designed specifically to aid non-native speaking students in acquiring writing skills through individualized instruction. The aim of this course is to enhance/supplement the English as a Second Language program already offered at JCCC, Also, because hearing-impaired students have similar difficulties with the English language as ESL students, this course addresses the challenges often faced by this student population. This course meets by arrangement in the Writing Center. This course does not fulfill degree requirements. After registering for this course, the student should contact the Writing Center.

ENGL 105
BASIC ENGLISH GRAMMAR (3 CR)

The aim of English 105 is to introduce the student to the basic structures in English grammar: parts of speech, sentence types, phrases and clauses. Students learn to use correct punctuation. Moving from joining short phrases to the basic sentence, students learn to combine ideas to form a variety of sentence structures. Students practice skills, working in class (often in pairs or groups) and making use of computer programs in the Writing Center. Grammar games are used to help prepare students for a test. 3 hrs./wk. This course does not fulfill degree requirements.

ENGL 106
INTRODUCTION TO WRITING (3 CR)

Prerequisite: ENGL 102 or appropriate placement test score

Beginning with a review of basic sentence skills, this course focuses on paragraph development, including subject selection, topic sentences, methods of development, transitional devices and effective introductions and conclusions. The last part of the course will focus on developing multi-paragraph essays. 3hrs./wk. This course does not fulfill degree requirements.

ENGL 107
SENTENCE PATTERN SKILLS (1 CR)

At the completion of this course, the student should be able to identify the parts of speech, elements of a sentence and basic sentence patterns. Emphasis is on sentence combining and sentence composing. Students are told that grammar in isolation will not improve writing skills, and they are encouraged to practice writing. This course meets by arrangement in the Writing Center. This course does not fulfill degree requirements. After registering for this course, the student should contact the Writing Center.

ENGL 108
COMPOSING SKILLS (1 CR)

After completing Composing Skills, students will be able to choose a topic, narrow the topic, and organize and develop with supporting evidence a variety of paragraph modes. The student will be able to achieve paragraph unity, coherence and emphasis. Also, the student will learn revision and editing strategies. Course meeets by arrangement in the Writing Center. This course does not fulfill degree requirements. After registering for this course, the student should contact the Writing Center.

ENGL 109
PROOFREADING SKILLS (1 CR)

This 1-credit module is designed to provide students with strategies and rules that will help them recognize and repair common grammar, usage and mechanical errors in their writing. This course focuses on the major and minor errors as set forth in the English program objectives (available in the Writing Center). Students will learn to recognize and correct these errors, not only on exercise sheets, but also in their own writing. This class meets by arrangement in the Writing Center. This course does not fulfill degree requirements. After registering for this course, the student should contact the Writing Center.

ENGL 110
ENGLISH GRAMMAR REVIEW (1 CR)

English Grammar Review helps students to review the parts of speech, elements of a sentence, basic sentence patterns, major sentence level errors, agreement errors and punctuation. Students are encouraged to practice writing. Course meets by arrangement in the Writing Center. This course does not fulfill degree requirements. After registering for this course, the student should contact the Writing Center.

ENGL 112
RESEARCH SKILLS (1 CR)

Research Skills is a review of the various aspects of the research process, beginning with limiting the subject and moving to revising the finished product. Emphasis is on the gathering of resource materials, synthesizing the information and developing an essay in which the resource information is used to support a thesis and is documented in an approved academic form. This course meets by arrangement in the Writing Center. This course does not fulfill degree requirements. After registering for this course, the student should contact the Writing Center.

ENGL 115
REVISION SKILLS (1 CR)

Revision Skills is designed to instruct the practicing writer in skills needed to revise all writing, including business, college and personal writing. Students will use computer programs and self-paced materials. Revision Skills is intended to complement courses in which writing is assigned. Students will be encouraged to bring in business communication or college assignments to apply the learned skills. Course meets by arrangement in The Writing Center. This course does not fulfill degree requirements. After registering for this course, the student should contact the Writing Center.

ENGL 120
WRITING IN THE DISCIPLINES (1 CR)

This course is designed to complement and/or support classes in which writing is intrinsic to the curriculum and provide students with a process that can be applied to the variety of written assignments typically assigned in classes other than composition. Students will practice writing a variety of short papers using a prescribed process for each assignment. The course is individualized. Students enrolled in this class must come to the Writing Center, LIB 308, to make arrangements for their class schedule, to pick up a syllabus and other materials, and to be assigned an instructor. The course is a combination of written material and software. All completed work will be kept in a folder in the Writing Center. Students should anticipate approximately 20 hours of work to complete the course. This course does not fulfill degree requirements.

ENGL 121
COMPOSITION I (3 CR)

Prerequisite: ENGL 106 or appropriate placement test score

Composition I focuses on writing nonfiction prose suitable in its expression and content to both its occasion and its audience. Students will have an opportunity to

improve in all phases of the writing process: discovering ideas, gathering information planning and organizing, drafting, revising and editing. Each essay written in the course should clearly communicate a central idea or thesis, contain sufficient detail to be lively and convincing, reflect the voice of the writer and use carefully edited standard written English. 3 hrs./wk.

ENGL 122
COMPOSITION II (3 CR)

Prerequisite: ENGL 121

Because so much writing required in college and in the workplace demands the ability to synthesize information gathered from various sources, Composition II will focus on skills essential to gathering, comprehending, analyzing, evaluating and synthesizing information. Composition II also emphasizes organizing and polishing steps important in composing expository, evaluative and persuasive prose. 3 hrs./wk.

ENGL 123
TECHNICAL WRITING I (3 CR)

Prerequisite: ENGL 121

This course provides a basic knowledge of technical writing. Students will learn the writing process (prewriting, writing and rewriting) to follow when constructing correspondence, including memos, letters, e-mail, reports, instructional manuals and Web pages. Students also will learn seven key traits of effective technical writing: clarity, conciseness, document design, organization, audience recognition, audience involvement and accuracy. Accuracy specifically entails the need for students to adhere to rules of grammar and mechanics. Students will learn how to create computer- generated graphics and learn word processing skills. Finally, the students will learn how to work in teams, modeling Total Quality Management skills. 3 hrs./wk.

ENGL 130
INTRODUCTION TO LITERATURE (3 CR)

Prerequisite: ENGL 121

Students will read, discuss and analyze works from three literary genres: the short story, the poem and the play. Students will learn and apply the technical vocabulary used in the criticism of these literary forms. Students will be introduced to representative works from various literary traditions and cultures, including numerous works from contemporary writers. 3 hrs./wk.

ENGL 140
WRITING FOR INTERACTIVE MEDIA (3 CR)

Prerequisite: ENGL 121

This course teaches students to apply the writing process as well as fundamental rhetorical and composition skills to various interactive media including web pages, CD-ROMs/DVD, e-mail, kiosks, computer program packages and other electronic media. The instruction will focus on skills essential to selecting, evaluating and synthesizing information from primary and secondary sources; in addition, it will emphasize the different approaches to organization that these media require as well as the variety of discourse styles used in informative, instructional, persuasive and entertainment media texts. 3 hrs. lecture/wk.

ENGL 210
TECHNICAL WRITING II (3 CR)

Prerequisite: ENGL 123

This course provides an advanced knowledge of technical writing. Students will learn the writing process (prewriting, writing and rewriting) to follow when constructing correspondence. Types of technical writing covered in this course include memos, letters, e- mail, short reports, long reports, instructional manuals, Web pages, PowerPoint presentations, brochures, newsletters, journal articles, resumes and online resumes. Students also will learn seven key traits of effective

technical writing; clarity, conciseness, document design, organization, audience recognition, audience involvement and accuracy. Accuracy specifically entails the need for students to adhere to rules of grammar and mechanics. Students will learn how to create computer-generated graphics and learn word-processing skills. Finally, the students will learn how to work in teams, modeling Total Quality Management skills. 3 hrs./wk.

ENGL 222
ADVANCED COMPOSITION (3 CR)
Prerequisite: ENGL 122

This course offers challenging insights into the act of writing. We will move beyond Composition I and Composition II, focusing on writing persuasively to a select audience; working together to anticipate and defuse objections; supply convincing evidence; synthesize the ideas of others to support our ends; look critically at all sources; and perfect a mature, polished style that is suitable to audience and occasion. 3 hrs./wk.

ENGL 223
CREATIVE WRITING (3 CR)
Prerequisite: ENGL 122

Students will study and practice writing in two or three of the major literary modes of writing: poetry, fiction, and possibly drama. The reading assignments are based on the premise that, to be a good writer, students must have knowledge of literary techniques and be perceptive readers and critics. Students will examine techniques of two or possibly three of the literary genres and then apply their knowledge to write in each genre. In addition, they will read other students' work and provide useful feedback on that work. 3 hrs./wk.

ENGL 224
CREATIVE WRITING WORKSHOP (3 CR)
Prerequisite: ENGL 223

In this class, students will build upon the knowledge and skills learned in ENGL 223. In addition to studying writing techniques, they will produce a body of written work in one or more literary genres of their choice: poetry, fiction, and/or drama. They will also read other students' work and provide useful feedback on that work. 3 hrs./wk.

ENGL 230
INTRODUCTION TO FICTION (3 CR)
Prerequisite: ENGL 122

This course features significant opportunities to write about the literature and the reader's response to it. Students will learn the historical fictional precedents of the short story; the similarities and differences between the short story and other narrative forms, such as the novel; the differences between the short story and its historical precedents, between short stories and film adaptations of them, and between commercial and literary short stories. Students will discover the place of short stories in major literary movements, the key elements of short stories and interpretive approaches to short stories. 3 hrs./wk.

ENGL 231
AMERICAN PROSE (3 CR)
Prerequisite: ENGL 122

American Prose presents a series of literary works by American writers that reflects the attitudes and identity of our national literature and culture. By grappling with the ideas and characterizations presented in each literary work, the student develops meaningful insights into the attitudes and human conditions that influence America's national literary identity. 3 hrs./wk.

ENGL 232

CHILDREN'S LITERATURE (3 CR)

Prerequisite: ENGL 122

Children's Literature is meant for all students interested in bringing children and books together but is especially suited for who are students with English or education majors; teachers already in the elementary school classroom; parents; those working with children in preschools, day-care centers and libraries; and grandparents and prospective parents. The course would also benefit those exploring the field of writing and illustrating for children. Students will identify children's needs and interests, list the criteria for choosing books for children, and demonstrate the means by which we can bring children and books together. Students will read, examine and critique a variety of children's literature selected by author, genre and historical time period. 3 hrs./wk.

ENGL 235
DRAMA AS LITERATURE (3 CR)

Prerequisite: ENGL 122

This course introduces students to the analysis of plays as literature. Beginning with the Greek dramatists and ending with the contemporary scene, students will read full-length plays and the comments of playwrights, directors, actors and critics. They will analyze drama from psychological, historical, philosophical, structural and dramatic perspectives. Students will write essays demonstrating their understanding of the works studied. 3 hrs./wk.

ENGL 241
BRITISH WRITERS (3 CR)

Prerequisite: ENGL 122

This course emphasizes reading and discussion of works by selected major British writers and includes related writing projects. Students will identify important biographical details; explore the historical, cultural and artistic context of major writers and their works; and identify and evaluate the use of significant literary devices. The course emphasizes the relationships among influential writers, their lives and times and their works important to our cultural heritage. 3 hrs./wk.

ENGL 243
LITERATURE OF SCIENCE FICTION (3 CR)

Prerequisite or corequisite: ENGL 122

This course examines the literature of science fiction, especially from 1960 through the present. Students explore the unifying concepts of science and technology, depicted through imaginative narratives of the past, present and future. Students read short stories and/or novels, view science fiction films and discuss key science fiction concepts. 3 hrs. lecture/wk.

ENGL 245
WRITING LIT FOR CHILDREN (3 CR)

Prerequisite: ENGL 232

Writing Literature for Children is a continuation of Introduction to Children's Literature aimed primarily at those students interested in writing and publishing literature for children. The students will review children's needs and interests, research topics and collect data for possible books. Then students will write and assemble a variety of children's literature. Students will critique their own work and that of their peers and revise their work accordingly. Finally, students will compose all correspondence typically required by publishers. 3 hrs./wk.

ENGL 250
WORLD MASTERPIECES (3 CR)

Prerequisite: ENGL 122

World Masterpieces introduces students to literary study using major literary works composed from the times of Homer to Shakespeare that have been influential in shaping and expressing values of Western culture. Students will read

selections representative of the epic, tragic, comic and lyric traditions primarily to gain knowledge of the works assigned. In addition, students will analyze the assigned texts as literary works and as cultural artifacts and influences. Finally, students will compare and contrast contemporary understandings of the individual and society with those expressed in the works studied. In completing the course objectives, students will learn the conventions of writing about literature and become familiar with general reference materials useful in studying literature. 3 hrs./wk.

ENGL 254
MASTERPIECES OF THE CINEMA (3 CR)

Prerequisite: ENGL 122

This course examines the development of cinema from the early experiments in the late 1800s up to the present day, presenting the history and art of both American and international cinema. Students read the textbook, view short and full-length films, and discuss important cinematic techniques and concepts. Students verify their judgments by summarizing and analyzing these important concepts, using discussions, and writing effective, well-organized essays in response to cinematic presentations and explanations. 3 hrs./wk.

ENGL 256
AMERICAN POETRY (3 CR)

Prerequisite: ENGL 122

American Poetry presents a planned reading schedule and directed discussion of poems that reflect the attitudes of American poets and American culture. By grappling with the ideas and characterizations presented in these poems, students can develop meaningful insights into the attitudes and human conditions that have influenced America's national literary identity. 3 hrs./wk.

Fashion Merchandising/Design (FASH)

FASH 121
FASHION FUNDAMENTALS (3 CR)

Upon successful completion of this course, the student should be able to define appropriate fashion terminology and explain the structure of the industry, including the design process and marketing of the fashion product. 3 hrs./wk.

FASH 123
APPAREL CONSTRUCTION I (4 CR)

Upon successful completion of this course, the student should be able to apply clothing construction principles, techniques and skills in apparel construction. The class will use lecture, demonstration and hands-on experience to teach the skills needed to plan and construct four garments during this class. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 124
APPAREL CONSTRUCTION II (4 CR)

Prerequisite: FASH 123 or two years of high school apparel construction training or division administrator approval

Upon successful completion of this course, the student should be able to apply intermediate apparel construction principles, techniques and skills in the production of various garments. This continuation of FASH 123 will focus on the planning and construction of an ensemble of intermediate complexity made from muslin fitting samples, with emphasis on precise fitting alteration. This course is a suggested elective for the Fashion Merchandising Program. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 125

VISUAL MERCHANDISING (3 CR)

Upon successful completion of this course, the student should be able to explain and apply the principles of design in visual merchandising. In addition, the student should be able to identify and explain the use of mannequins and other forms, display fixtures and lighting systems; apply color theory; and present merchandise effectively in visual displays. The student should also be able to demonstrate the use of appropriate types of displays for in-store promotions. This course is required for the Fashion Merchandising Program. 3 hrs./wk.

FASH 127
CAD:PATTERN DESIGN I (4 CR)

Upon successful completion of this course, the student should be able to apply the use of flat pattern methods in developing patterns for original apparel designs. Basic slopers and the CAD (computer-assisted design) Pattern Design System will be used to develop and manipulate patterns. The class will use lecture, demonstration and hands-on experience to teach skills needed in manual and computer-assisted pattern design. The student will plan and create patterns in this class. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 128
CAD: PATTERN DESIGN II (4 CR)
Prerequisite: FASH 127

Upon successful completion of this course, the student should be able to apply advanced methods of flat pattern design in developing patterns. This class is a continuation of FASH 127, CAD: Pattern Design I. Lecture, demonstration and hands-on experience will be used to teach techniques needed in computer-assisted and manual advanced pattern design. Industry standards will be used for sloper manipulation. Each student will create advanced flat patterns in this class. This is a suggested elective for the Fashion Merchandising Program. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 130
FASHION ILLUSTRATION I (3 CR)

Upon completion of this course, students should be able to create fashion illustrations for their portfolios. In addition, the student should be able to apply color, mood, detail and form using various media. 3 hrs./wk.

FASH 132
MARKETING COMMUNICATIONS (3 CR)

Upon successful completion of this course, the student should be able to explain adverstising and promotion from an integrated marketing communications perspective that combines theory with planning, management and strategy. In addition, the student will be able to explain advertising, sales promotion, direct marketing and publicity/public relations and the need for integration of these promotional mix elements in an overall marketing communications program. 3 hrs./wk. Fall.

FASH 135
IMAGE MANAGEMENT (1 CR)

Upon successful completion of this course, the student should be able to conduct an extensive wardrobe inventory. In addition, the student should be able to apply principles of personal grooming, elements of design and fabric, and accessory knowledge to the development of an individual professional wardrobe plan based on individual budget constraints. 1 hr./wk.

FASH 140
GARMENT DESIGN I (3 CR)
Prerequisite: FASH 123

Upon successful completion of this course, students should be able to produce a

first pattern and prepare it for production. This includes translating garment ideas from color sketches (croquis); continue the design process through fabric selection and pattern drafting; figure yardage, notions and wholesale cost; and construct a finished garment. 6 hrs. lecture, lab/wk.

FASH 143
TAILORING (4 CR)

Prerequisite: FASH 124

Upon successful completion of this course, the student should be able to apply advanced construction principles, techniques and skills in the production of tailored garments. This course is a continuation of FASH 124, Apparel Construction II. The class will use lecture, demonstration and hands-on experience as the student completes a trial muslin for a jacket or coat plus a finished three-piece ensemble of advanced complexity during this class. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 150
TEXTILES (3 CR)

Upon successful completion of this course, the student should be able to differentiate fibers and fabrics according to their specific characteristics and to select fibers and fabrics for specific applications. In addition, the student should be able to identify properties and characteristics of natural and man-made fibers, the properties and characteristics of yarns, fabric construction methods including weaving and knitting and various finishing processes including printing and dyeing. 3 hrs./wk.

FASH 220
CAD APPAREL DESIGN (3 CR)

Upon successful completion of this course, the student should be able to apply the elements and principles of design in evaluating and designing women's, men's and children's apparel. A project of designing a line will apply the student's aesthetic knowledge, the relationship of apparel design to the current socioeconomic conditions and apparel production knowledge. Projects use computer- aided design software. 3 hrs./wk.

FASH 224
HISTORY OF COSTUME (3 CR)

Upon successful completion of this course, the student should be able to identify the political, economic, technological and sociological factors that have influenced Western costume worn by women, men and children from ancient Egyptian times to the present. 3 hrs./wk.

FASH 225
STORE PLANNING (3 CR)

Prerequisite: FASH 125

Upon successful completion of this course, the student should be able to demonstrate the skills needed to plan and execute the display methods and store planning concepts for promoting merchandise within a large or small store interior. These plans will use the student's understanding of design, fixtures, traffic patterns, floor sets, graphics/signage and materials. This course is a requirement for the visual merchandising certificate. 3 hrs. lecture/wk.

FASH 230
FASHION ILLUSTRATION II (3 CR)

Prerequisite: FASH 130

Upon successful completion of this course, the student should be able to produce refined fashion illustrations to enhance the portfolio. Fashion Illustration II is a continuation of Fashion Illustration I. Greater emphasis is placed on development of a personal illustration style and presentation of a professionally executed

portfolio. 3 hrs./wk.

FASH 231
MERCHANDISE PLANNING & CONTROL (3 CR)

Prerequisite: MATH 120

Upon successful completion of this course, the student should be able to describe the management structure of retail merchandising operations, contrast merchandising functions among various types of retail operations, explain the buying process, explain the financial operations of retail merchandising and apply these principles in computer-simulated case situations. 3 hrs./wk. Spring.

FASH 242
CONSUMER PRODUCT EVALUATION (3 CR)

Upon successful completion of this course, the student should be able to evaluate a wide range of textile and nontextile products, from lingerie to china, on the basis of specialized product knowledge. In addition, the student should be able to prepare research projects on selected products. 3 hrs./wk. Spring.

FASH 268
FIELD STUDY:THE MARKET CENTER (3 CR)

Prerequisite: FASH 121

Upon successful completion of this course, the student should be able to identify and distinguish between national, regional and local retail market centers. In addition, the student should be able to explain the importance of market centers, analyze the marketing mix of selected retailers and describe uses of fashion auxiliary services. This is a suggested course for the Fashion Merchandising Program. 3 hrs./wk. Spring.

FASH 277
FASHION SEMINAR:CAREER OPTIONS (2 CR)

Upon successful completion of this course, the student should be able to define individual career goals after a thorough examination of five career areas within the fashion industry. In addition, the student should be able to explain strategies for success in the workplace. 2 hrs./wk. Fall.

FASH 280
CAPSTONE; INDUSTRY TOPICS (3 CR)

Prerequisites: FASH 283 and FASH 284 Corequisite: FASH 231

Upon successful completion of this course, the student should be able to exhibit knowledge and work-based skill inherent to fashion retailing, wholesaling and manufacturing. The student will have opportunities to apply knowledge gained in prior courses analyzing industry topics. This capstone course will review and evaluate competencies that are essential for employment in the fashion industry. This course is required for the Fashion Merchandising Program. 3 hrs. lecture/wk. Spring.

FASH 283
FASHION INTERNSHIP I (1 CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in the fashion industry. A minimum of 15 hours on-the-job training/wk.

FASH 284
FASHION INTERNSHIP II (1 CR)

Upon successful completion of this course, the student should be able to apply

classroom knowledge to an actual work situation. The student will receive 225 hours of work experience in an approved training situation designed to provide practical experience in the fashion industry. An average of 15 hours on-the-job training/wk.

FASH 285
FASHION INTERNSHIP III (1 CR)

Upon successful completion of this course, the student should be able to demonstrate the skills required to advance to an entry-level management position. The student will receive 225 hours of work experience in an approved training situation designed to provide practical experience in the fashion industry. An average of 15 hours on-the-job training is required/wk.

FASH 286
FASHION INTERNSHIP IV (1 CR)

Prerequisites: FASH 283 and FASH 284 and FASH 285 and 45 hours toward degree in Fashion Merchandising.

Upon successful completion of this course, the student will have received 225 hours of work experience in an approved training environment. The student should be able to demonstrate the skills required in an entry level management position. An average of 15 hours on the job training/wk. is required.

FASH 298
EUROPEAN FASHION EMPHASIS (3 CR)

Upon successful completion of this course, the student will be able to compare American and European retail merchandising, advertising and visual presentation. This travel-for-credit course includes visits to selected European cities.

Fire Services Administration (FIRE)

FIRE 130
FIRE INVESTIGATION (1 CR)

Prerequisite: FIRE 175

This course provides instruction in basic fire investigation. Students will learn basic cause and origin determination, scene and evidence security techniques, and report-writing skills. This course meets the job performance requirements pertaining to fire investigation identified in NFPA 1021, Fire Office Professional Qualifications. 1 hr./wk.

FIRE 135
BUILDING AND FIRE CODES (3 CR)

Prerequisite: FIRE 175

This course entails application and interpretation of codes and ordinances, especially the Life Safety Codes used extensively in fire prevention. 3 hrs./wk.

FIRE 162
FIRE TACTICS AND STRATEGY (3 CR)

Prerequisite: FIRE 175

Fire control through manpower, equipment and extinguishing agents will be explored, including theoretical models and practical applications. 3 hrs./wk.

FIRE 175
ESSENTIALS OF FIREFIGHTING (9 CR)

Prerequisite or corequisite: HPER 240

This course provides cognitive, psychomotor and affective instruction for those

students seeking certification as a fire fighter in the state of Kansas. The class covers hazardous materials, fire department communications, fire ground operations (first responder: operations level), rescue operations and prevention, preparedness and maintenance. Upon successful completion of the cognitive examinations and all psychomotor skills evaluations, student will be allowed to sit for the Kansas Fire Fighter II state certification examination, which is administrated by the University of Kansas, Fire Service Training. 5 hrs. lecture, 7 hrs. lab/wk.

FIRE 220
FIRE ADMINISTRATION (3 CR)

Prerequisite: FIRE 175

Techniques and methods used in managing fire departments are explored, including budgeting processes, administrative functions and types of political systems that affect a fire department. 3 hrs./wk.

FIRE 222
FIRE SCIENCE LAW (3 CR)

Prerequisite: FIRE 175

The law as it pertains to the fire service will be explained, along with tort law and business law. 3 hrs. /wk.

FIRE 224
INCIDENT COMMAND SYSTEMS (3 CR)

Prerequisite: FIRE 175

This is a course in basic incident command. Disaster control, disaster management, communications for disaster management and types of disasters are presented. 3 hrs. /wk.

FIRE 250
FIRE SERVICE INSTRUC METHODS (3 CR)

Prerequisite: FIRE 175

This course is designed to provide the instructional skills and knowledge necessary to develop, conduct and evaluate formal training programs in in-service and classroom formats. This course meets NFPA 1041 standards for fire service instructor.

Foreign Language (FL)

FL 116
ELEMENTARY LATIN I (3 CR)

Students will have the opportunity to learn the basic vocabulary and structural patterns, or grammar, of Latin. Emphasis will be on fundamental grammar concepts, extensive word study for English vocabulary growth and the lasting contributions Roman society made to Western civilization. 3 hrs./wk.

FL 117
ELEMENTARY LATIN II (3 CR)

Prerequisite: FL 116 or one year of high school Latin

This course will complete the presentation of basic Latin vocabulary and grammar. Fundamental grammar concepts, extensive word study for English vocabulary growth and the lasting contributions of Roman society to Western civilization will be emphasized. 3 hrs./wk. Spring.

FL 120

ELEMENTARY GERMAN I (5 CR)

This course presents the sounds, vocabulary and basic structural patterns of German, focusing on the development of listening comprehension, speaking, reading and writing skills. Cultural material will be integrated into the course. 5 hrs./wk.

FL 121
ELEMENTARY GERMAN II (5 CR)

Prerequisite: FL 120 or one year of high school German

This course will continue the presentation of the vocabulary and basic structural patterns begun in Elementary German I with continued emphasis on the development of listening comprehension, speaking, reading and writing skills. 5 hrs./wk.

FL 130
ELEMENTARY SPANISH I (5 CR)

In this basic course, students will study Spanish grammar conversation, composition and the culture of Spanish- speaking countries. 5 hrs./wk.

FL 131
ELEMENTARY SPANISH II (5 CR)

Prerequisite: FL 130 or one year of high school Spanish

This course will continue the presentation of the material introduced in Elementary Spanish I. Graded reading selections will be added as a basis for conversation and composition in discussion periods. 5 hrs./wk.

FL 133
BASIC SPANISH/HOSPITALITY MGT (2 CR)

In this basic course, students will be introduced to terminology related to the hospitality industry, basic Spanish grammar and phrases related to work. 2 hrs./wk.

FL 140
ELEMENTARY FRENCH I (5 CR)

Areas covered in this basic course include vocabulary building, grammar study, conversation and an introduction to French culture and civilization. The emphasis is on conversation. 5 hrs./wk.

FL 141
ELEMENTARY FRENCH II (5 CR)

Prerequisite: FL 140 or one year of high school French

This course continues the presentation of the material introduced in Elementary French I. Graded reading selections will be used as the basis for conversation. 5 hrs./wk.

FL 150
ELEMENTARY RUSSIAN I (5 CR)

In this course, students will learn the basic sounds, vocabulary and structural patterns of Russian. Emphasis will be on listening comprehension, speaking, reading and writing skills. Cultural material will be included. 5 hrs./wk.

FL 151
ELEMENTARY RUSSIAN II (5 CR)

Prerequisite: FL 150 or one year of high school Russian

This course completes the presentation begun in Elementary Russian I. Students

will gain listening comprehension, speaking, reading and writing skills appropriate to a second-level course. 5 hrs./wk.

FL 160
ELEMENTARY ITALIAN I (5 CR)

Students will be introduced to the sounds, vocabulary and basic structural patterns of Italian, with primary focus on the development of listening comprehension and speaking, reading and writing skills. Integrated throughout the course will be an introduction to the culture of Italy. 5 hrs./wk.

FL 161
ELEMENTARY ITALIAN II (5 CR)

Prerequisite: FL 160 or one year of high school Italian

A continuation of the presentation of the vocabulary and basic structural patterns of Italian, this course will emphasize the development of listening comprehension, speaking, reading and writing skills. Cultural material also will be integrated into the course. 5hrs./wk.

FL 165
ELEMENTARY CHINESE I (5 CR)

This course will introduce students to the basic sounds, vocabulary, grammar and usage, characters and reading of the Chinese language. The emphasis will be on developing basic conversational skills. Students will develop an understanding and appreciation of Chinese culture. 5 hrs./wk.

FL 166
ELEMENTARY CHINESE II (5 CR)

Prerequisite: FL 165 or equivalent college-level course with a grade of D or better or one year of high school Chinese with a grade of D or better.

This course offers a continuation of Elementary Chinese I, emphasizing the sounds, vocabulary, grammar, usage, characters and reading of the Chinese language. Students will develop more advanced conversational skills and cultural understanding. 5 hrs./wk.

FL 170
ELEMENTARY JAPANESE I (5 CR)

This course is an introduction to the sounds, vocabulary, grammar, usage and readings of the Japanese language. The emphasis will be on developing basic conversational skills. Cultural materials will be included. 5 hrs./wk.

FL 171
ELEMENTARY JAPANESE II (5 CR)

Prerequisite: FL 170 or one year of high school Japanese

A continuation of Elementary Japanese I, this course will emphasize the sounds, vocabulary, grammar, usage and reading of the Japanese language. The emphasis is on developing more advanced conversational skills and cultural understanding. 5 hrs./wk.

FL 175
ELEM BRAZILIAN PORTUGUESE I (5 CR)

In this basic course, students will study Portuguese grammar, conversation, composition and the culture of Brazil. 5 hrs./wk.

FL 176
ELEM BRAZILIAN PORTUGUESE II (5 CR)

Prerequisite: FL 175

This course will continue the presentation of the material introduced in Elementary Brazilian Portuguese I. Graded reading selections are added as a basis for conversation and composition in discussion periods. 5 hrs. lecture/wk.

FL 178
INTERMEDIATE RUSSIAN I (3 CR)

Prerequisite: FL 151 or two years of high school Russian

This course will emphasize vocabulary development and more advanced study of Russian grammar. Students will practice reading, listening comprehension, speaking and writing at the intermediate level. 3 hrs./wk.

FL 179
INTERMEDIATE RUSSIAN II (3 CR)

Prerequisite: FL 178 or three years of high school Russian

Students will study Russian language and culture that would prepare them to travel in a Russian-speaking country and engage in simple conversation with the citizens. 3 hrs./wk.

FL 180
ELEMENTARY AMER SIGN LANG I (3 CR)

This course will focus on the development of beginning American Sign Language communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. 5 hrs. lecture/lab/wk.

FL 181
ELEM AMERICAN SIGN LANGUAGE II (3 CR)

Prerequisite: FL 180 or INTR 120

This course will focus on continued development of elementary American Sign Language skills beyond those taught in Elementary ASL I. Students will work on developing communication competencies, concentrating on comprehension and production skills. Information about the linguistic and cultural features will be included in the context of language learning experiences. 6 hrs. integrated lecture-lab/wk.

FL 190
INTERMEDIATE JAPANESE I (3 CR)

Prerequisite: FL 171 or two years of high school Japanese

This course is a continuation of the study of Japanese language and culture, emphasizing the sounds, vocabulary, grammar, usage and readings of the Japanese language. Emphasis will be on developing further advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed. 3 hrs/wk.

FL 191
INTERMEDIATE JAPANESE II (3 CR)

Prerequisite: FL 190 or three years of high school Japanese

This course is a continuation of the study of Japanese language and culture, emphasizing the sounds, vocabulary, grammar, usage and readings of the Japanese language. Emphasis will be on developing further advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed. 3 hrs. lecture/wk.

FL 192
INTERMEDIATE CHINESE I (3 CR)

Prerequisite: FL 166 or equivalent

This course is a continuation of study of the Chinese language and culture,

emphasizing the sounds, vocabulary, grammar, usage and readings of the Chinese language. Focus will be on developing more advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed. 3 hrs./wk.

FL 193
INTERMEDIATE CHINESE II (3 CR)

Prerequisites: FL 192 or equivalent

This course is a continuation of study of the intermediate Chinese language and culture, emphasizing the sounds, vocabulary, grammar, usage and readings of the Chinese language. Focus will be on developing more advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed. 3 hrs. lecture/wk.

FL 205
CONVERSATIONAL JAPANESE (2 CR)

Prerequisite: FL 171 or two years of high school Japanese

This course is designed to enhance the ability of students to express themselves orally in Japanese through vocabulary building and reiteration of essential grammatical structures. The vocabulary will stress everyday situations and current events. 2 hrs. lecture/wk.

FL 220
INTERMEDIATE GERMAN I (3 CR)

Prerequisite: FL 121 or two years of high school German

This class will emphasize vocabulary building and grammar review primarily through extensive reading of German texts. There will be additional practice in listening comprehension, speaking and writing. 3 hrs./wk.

FL 221
INTERMEDIATE GERMAN II (3 CR)

Prerequisite: FL 220 or three years of high school German

This class will further expand the mastery of German vocabulary and structure through extensive reading of more advanced texts with additional practice in listening comprehension, speaking and writing. 3 hrs./wk.

FL 223
CONVERSATIONAL GERMAN (2 CR)

Prerequisite: FL 121 or two years of high school German

By applying vocabulary and structures presented in the text and handouts and by applying knowledge gained in a systematic review of German, the successful student will be able to communicate in German in situations that typically arise while traveling in a German-speaking country. 2 hrs./wk.

FL 230
INTERMEDIATE SPANISH I (3 CR)

Prerequisite: FL 131 or two years of high school Spanish

This is a reading course designed to build vocabulary, increase understanding of Hispanic culture and increase speaking fluency. The course will include composition and conversation. 3 hrs./wk.

FL 231
INTERMEDIATE SPANISH II (3 CR)

Prerequisite: FL 230 or three years of high school Spanish

Extensive study of Hispanic literature will be included in this class, along with advanced reading and grammar review. 3 hrs./wk.

FL 234
CONVERSATIONAL SPANISH (2 CR)

Prerequisite: FL 131 or two years of high school Spanish

This course is designed to enhance students' ability to express themselves orally in Spanish through vocabulary building and reiteration of essential grammatical structures. The vocabulary will stress everyday life situations and current events. 2 hrs./wk.

FL 240
INTERMEDIATE FRENCH I (3 CR)

Prerequisite: FL 141 or two years of high school French

In this course, students begin a more in-depth study of French grammar and vocabulary as they improve their mastery of the four communicative skills (listening, speaking, reading and writing). Reading assignments (from literary, journalistic and Internet sources) will be more advanced and writing assignments will be more extensive at the Intermediate level. 3 hrs./wk.

FL 241
INTERMEDIATE FRENCH II (3 CR)

Prerequisite: FL 240 or three years of high school French

In this class, students continue their in-depth study of French grammar and improvement of vocabulary. All four communication skills (listening, speaking, reading, and writing) continue to be emphasized as reading assignments, compositions, listening comprehension exercises and class discussion become more complex. 3 hrs./wk.

FL 243
CONVERSATIONAL FRENCH (2 CR)

Prerequisite: FL 141 or two years of high school French

This course is designed to build spontaneous speaking ability. Everyday situations and current events will be discussed in class. 2 hrs./wk.

FL 246
CONVERSATIONAL RUSSIAN (2 CR)

Prerequisite: FL 151 or two years of high school Russian

This course is designed to enhance students' ability to express themselves orally in Russian through vocabulary building and reiteration of essential grammatical structures. The vocabulary will stress everyday situations and current events. 2 hrs./wk.

FL 270
INTERM AMERIC SIGN LANGUAGE I (3 CR)

Prerequisite: FL 181 or INTR 121

This course will focus on the development of intermediate American Sign Language communication skills. Emphasis will be on teaching in context comprehension skills and linguistic features of the language. 3 hrs./wk.

FL 271
INTERM AMERIC SIGN LANGUAGE II (3 CR)

Prerequisite: FL 270 or INTR 122

The study of intermediate American Sign Language will continue in this course. It is designed to further intermediate communication skills in American Sign Language. Information about the linguistic and cultural features will be included in the context of language learning experiences. 3 hrs. lecture/wk.

FL 298
FRENCH CULTURE & CIVILIZATION (3 CR)
In this travel-for-credit course, students will visit selected sites in France, where they will compare the French and U.S. languages, values, culture and institutions. Summer.

Game Development (GAME)

GAME 101
COMPUTER GAME CREATION (4 CR)
This course is designed to present the skills and to provide the hands-on experience required to create computer games utilizing game development tools that require no programming. Typical game creation topics to be covered include 2D graphics, 3D modeling, music and sound effects. Typical tasks will include setting up a game development studio, manipulating graphics images, obtaining or creating sounds and music, installing and using various game development tools and working with pictures and animation. 3 hrs lecture, 1.5 hrs lab/wk.

Geoscience (GEOS)

GEOS 130
GENERAL GEOLOGY (5 CR)
In this introductory course the students will survey the geologic processes that form and shape the earth over geologic time using the models of the rock cycle, the hydrologic cycle and the tectonic cycle. In the laboratory they will conduct hands-on activities designed to enhance and reinforce the geologic concepts they have studied. 4 hrs. lecture, 3 hrs. lab/wk.

GEOS 140
PHYSICAL GEOGRAPHY (3 CR)
This course is a survey of the physical and environmental topics of geography, including the methods used to study them. The Earth as a system and the subsystems of the atmosphere, hydrosphere, lithosphere and biosphere constitute the major units of study. Students will acquire basic terminology that they will use to explain the earth, the atmosphere, the landscape, and the processes that occur on earth to change the landscape. Topics may include mapping with topographic maps and remote sensing; development and structure of the atmosphere; weather; water resources; climate; rock formation; mountain building; chemical and physical weathering; mass movement; soil formation; erosion, transportation and deposition by running water, wind, ice, currents, waves and tides; and the foundation that these processes build for the biosphere on earth. 3 hrs./wk.

GEOS 141
PHYSICAL GEOGRAPHY LAB (2 CR)
Corequisite: GEOS 140 or the equivalent

Students in this course will practice their knowledge of physical geography through the collection and analysis of atmospheric data and the identification and interpretation of landforms and biological patterns as depicted on topographic maps and remotely sensed imagery. 4 hrs. lab/wk.

GEOS 145
WORLD REGIONAL GEOGRAPHY (3 CR)
In this introductory course, the student will first review the basic theories of the discipline of geography, the relationship of world population and resources and the factors affecting development. Next, the student will survey the major regions of the world to identify each region's distinguishing geographic characteristics, summarize its past development and explain the key issues affecting the region's future development. 3 hrs. lecture/wk.

Health Care (HC)

HC 101
INTRO TO HEALTH CARE DELIVERY (3 CR)

This course is an introduction to the health care delivery system with an overview of health careers and the roles and responsibilities of members of the health care team. Emphasis will be on how to work within a health care team, effective communication skills, professional safety and workplace skills, and legal and ethical rights and responsibilities of patients and health care workers. 3 hrs. lecture/wk.

HC 125
INTERNATIONAL AWARE FLD STDY (2 CR)

This is a service-learning course. While partnering with a not-for-profit agency, teams of students will deliver service to a community in a developing country that suffers from extreme poverty. The service provided will vary depending on the identified needs of the community. While serving in the developing country, students will gain an understanding of the culture, language and health status of the people. Students will be exposed to the social , political and economic aspects of life that shape the community. Prior to travel, students are required to attend preparation meetings, fundraise and participate in a local service project. sixteen hrs. lecture, forty hrs. field study

Health Information Technology (KMRT)

KMRT 101

INTRO MED RECORDS PROFESSION (2 CR)

Orientation to the medical records profession and the supporting professional organization. History and evolution of health care delivery, facilities, and practitioners. Supervisory functions of the medical record department. 2 hrs. lecture/wk.

KMRT 102

H. R. SYS. ANALYSIS & CONTROL (3.5 CR)

Content, storage, retrieval, control, and retention of medical records, especially hospital records. Forms design and control, microfilming, and computer applications for medical record departments. 2.5 hrs. lecture, 2 hrs. lab/wk.

KMRT 103

MED.TERM.FOR MEDICAL RECORDS I (3 CR)

Professional language of medicine. Analysis of medical terms by roots and combining forms. Disease processes, diagnostic and operative procedures for each system of the body. Selected medical specialties. 3 hrs. lecture/wk.

KMRT 106

HEALTH CARE STATISTICS (3 CR)

Prequisite: KMRT 102 or approval of instructor.

Vital health statistics, their uses and values. Abstracting and analysis of data from medical records, collection of data from other sources, and methods of presenting the information. 2.5 hrs. lecture, 1 hr. lab/ wk.

KMRT 108

LEGAL ASPECTS/ MEDICAL RECORDS (2 CR)

KMRT 102 or approval of the instructor.

Legal principles applied to the health care professions. Confidentiality of the medical record, informed consent, the medical record as a legal document, release of clinical information, response to subpoena, and testimony. 2 hrs. lecture/wk.

KMRT 109

DIRECTED PRACTICE I (2.5 CR)

Prequisite: BIOL 144 and KMRT 102.

Supervised on-the-job training in a medical records department. Supervised discussion of clinical experiences. 2 hrs. lab, 3 hrs. field studies/wk.

KMRT 110

PHARMACOLOGY (1.5 CR)

Prequisite: BIOL 144 and KMRT 103.

Introduction to basic pharmacology with a body systems approach to disease. 1 hr. lecture, 1 hr. lab/wk.

KMRT 111

INTRO MED.INS.OFFICE PROCEDURE (1.5 CR)

Prerequisite: KMRT 103.

An overview of medical office systems and administrative procedures, with emphasis on insurance billing, compliance with regulatory agencies, and technology tools including medical transcription. 1 hr. lecture, 1 hr. lab /wk.

KMRT 200

INTRO/CLASSIFICATIONS SYSTEMS (1 CR)

Classification systems used to organize clinical data in health care. The ICD-9-CM classification system will be introduced. 1 hr. lecture/wk.

KMRT 201

QUALITY MANAGEMENT (3 CR)

Prerequisite: KMRT 108 or approval of instructor.

Methods of assessing and improving quality in a health care setting. Concept of continuous quality improvement. Compliance with guidelines of regulatory and accrediting agencies. 2.5 hrs. lecture, 1 lab/wk.

KMRT 202

CLASS SYS NOMENCL/INDEX/REG I (4 CR)

Prerequisite: KMRT 200.

Nomenclatures and classification systems for coding and indexing diagnoses and procedures with special emphasis on ICD-9-CM. 2.5 hrs. lecture, 3 hrs. lab/wk.

KMRT 203

DIRECTED PRACTICE II (2 CR)

Prerequisite: KMRT 202 with a grade of C or better or concurrent enrollment in KMRT 202.

Supervised learning experience in a medical records department under the direction of a credentialed professional involving a variety of procedures including coding and abstracting health information, medical transcription, and relaese of information. Supervised discussion of clinical experiences. 1 hr. lab, 3 hrs. field studies/wk.

KMRT 206

SPECIALIZED HEALTH RECORD SYST (2 CR)

Specialized health care systems. Record maintenance. Requirements of accrediting and regulating agencies. Specialized health information registers. 2 hrs. lecture /wk.

KMRT 207

CLASS SYS/NOMEN/INDEX/REG II (3 CR)

Prerequisite: BIOL 144 and KMRT 202.

Nomenclatures and classification system for coding and indexing diagnoses and procedures with emphasis on specialized health care record systems. Impact of

DRGs on the coding function. 2 hrs. lecture, 2 hrs. lab/wk.

KMRT 208

DIRECTED PRACTICE III (2 CR)

Prerequisite: KMRT 203.

Supervised on-the-job instruction about health record systems in specialized health care facilities. Supervised discussion of directed practice experiences. 2 hrs. lab, 2 hrs. field studies.

KMRT 210

CLASS SYS &NOMEN CLTRS AMBULT (3 CR)

Prerequisites: KMRT 200 and BIOL 108/PVCC with a grade of "C" or better or concurrent enrollment in BIOL 108.

Outpatient coding, classification, and payment systems. Assignment of CPT-4 codes to procedures and services. Common outpatient procedures. Role of the health information technologist in ambulatory coding & billing. 2 hrs. lecture, 2 hrs. lab/wk.

KMRT 211

ORG & ADMIN IN HEALTH INFO (3 CR)

Prerequisite: KMRT 201, 202, and 203

General principles of management and organization as applied to health information settings. Budget development and control, personnel recruitment and retention, performance appraisal, and progressive discipline. Office design, productivity monitoring, work simplification, job analysis and job descriptions, and quality management. 2.5 hrs. lecture, 1 hr. lab/wk.

Health Occupations (AVHO)

AVHO 102
CERTIFIED NURSE AIDE

This course provides classroom and clinical instruction for the primary care of clients in long-term and acute- care facilities. Students learn skills for daily hygiene, bedside care, vital sign measurement, positioning and safe transfer of clients. The class prepares and schedules the student to take the Kansas CNA examination. 96 contact hrs.

AVHO 103
CNA REFRESHER COURSE

Prerequisite: CNA Certification

This 10 hour CNA refresher course provides both classroom and laboratory experience to update the inactive CNA. The student will discuss the nurse aide's responsibility in current health care system and the importance of resident's rights. The student will demonstrate safety measures, infection control procedures, personal care skills, measurement of vital signs and transfers, positioning and turning. 10 contact hrs.

AVHO 104
CERTIFIED MEDICATION AIDE

Prerequisite: Proof of Kansas CNA certification

This course includes the development of knowledge related to many commonly prescribed medications. Students will learn the classification, side effects and techniques of administration, including preparation and accurate distribution of medications. Safe administration of oral medications is discussed and demonstrated. Students will be scheduled to take the Kansas CMA examination. 80 contact hrs.

AVHO 106

HOME HEALTH AIDE

Prerequisite: Proof of Kansas CNA certification

This course provides the student with information necessary for nutritional meal planning, task modification, emotional support and personal service to clients and families needing health care assistance at home. Students will be scheduled to take the Kansas HHA certification examination. 21 contact hrs.

AVHO 108
CERT MEDICATION AIDE UPDATE

Prerequisite: Proof of Kansas CMA certification

This course meets the continuing education requirements for licensed Certified Medication Aides. The course includes review of commonly used drugs and their interactions with foods and other drugs. Also included are discussions of legal implications and regulations related to administration and record keeping, biological effects of medications on the elderly and a review of basic safety principles. 10 contact hrs.

AVHO 110
CPR FOR HEALTH CARE PROVIDERS

This course includes discussion of the cardiac and respiratory systems. The student will demonstrate CPR skills and airway obstruction techniques. With successful completion of this course, the student will receive Basic Rescuer level (Health Care Provider) affirmation. 8 contact hrs.

AVHO 112
REHABILITATIVE AIDE

Prerequisite: Proof of Kansas CNA certification

This course includes both classroom and laboratory instruction for the aging process as well as the role of the rehabilitative aide as a member of the health care team. Students learn the skills required to enhance the mobility of elderly residents in long-term care as well as the skills required to care for residents with special needs. A certificate from the college will be issued. 32 contact hrs.

AVHO 115
I V THERAPY

Prerequisite: Proof of LPN licensure

This course provides review of basic physiology of the circulatory system and instruction in principles of site selection for veins appropriate for I.V. therapy. This course meets the Kansas requirements for LPNs seeking certification in I.V. therapy. 48 contact hrs.

Heating,Vent.,Air Conditioning (HVAC)

HVAC 121
BASIC PRINCIPLES OF HVAC (4 CR)

Prerequisite or corequisite: HVAC 123

This is a beginning course in heating, ventilation and air conditioning technology that is appropriate for HVAC majors and other interested students. Upon successful completion of this course, the student should be able to identify the function of the basic components of an air-conditioning system. Topics will include heat laws, refrigerants, oils and refrigeration cycles of residential and light commercial systems. In the lab, students will design, assemble and operate a working refrigeration system. Competencies will include brazing, wiring, evacuating and charging a system. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 123
ELECTROMECHANICAL SYSTEMS (4 CR)

This is a beginning course in electrical theory that is required for HVAC, electrical and power plant technology, but is appropriate for all interested students. Common components found in the HVAC industry are used to develop these skills. Upon successful completion of this course, the student should be able to identify electrical components and their relationships to the various repair and troubleshooting techniques. The materials in this course will prove useful to service technicians whose background in electricity is limited. The course includes material from basic electrical theory to troubleshooting complex electrical circuits. This course will provide practice in application of electrical theory as well as in the interconnection of components of heating and cooling systems. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 124
EQUIP SELECTION & DUCT DESIGN (4 CR)
Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify techniques and procedures used in the residential construction industry to determine proper sizing of HVAC equipment and ducts to meet the requirements for a high-quality, comfortable climate in terms of heating, cooling, humidifying, dehumidifying, ventilation and air cleaning or filtering. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 125
ENERGY ALTERNATIVES (2 CR)

Upon successful completion of this course, the student should be able to identify diverse methods of alternate energy production. Some of the technologies that will be discussed are wind energy, photoelectric energy, nuclear energy, hydroelectric energy, biomass and alternate fuel vehicles. Students will understand the advantages of using various alternate energy technologies, the effects or by-products of each and the problems that might be encountered. Some student research will be included in the context of the course. Emphasis will be on the most promising or effective alternate energy technologies available. 2 hrs. lecture/wk.

HVAC 127
RESIDENTIAL SYSTEMS: HEATING (4 CR)
Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify all the components and accessories and their relation to the functions of residential heating systems. Topics covered will be natural gas, propane, oil, forced air and hydronic-types of equipment. Emphasis will be on the electrical diagrams and mechanical principles of operation of these systems. Practical instruction in service diagnosis procedures and techniques for efficient operation, maintenance, troubleshooting and repair of these systems make up the lab portion of the course. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 137
RESIDENTIAL SYS:AIR CONDITION (4 CR)
Prerequisite: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify all the components and accessories and their relation to the functions of residential air conditioning systems. Topics covered will include electric and natural gas air conditioner condensing units, metering devices, evaporation coils, and refrigerants. Electrical diagrams, psychrometric charts and techniques for efficient operation, maintenance, troubleshooting and repair of these systems make up the laboratory portion of the course. The student will be required to

provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 143
READING BLUEPRINT/LADDER DIAG (2 CR)

Upon successful completion of this course, the student should be able to identify all types of industrial plant blueprints. Included will be a discussion of machine parts and drawings as well as hydraulic, pneumatic, piping and plumbing, electrical, air conditioning and refrigeration drawings. Sketching used in industrial plants will be covered. A portion of the course will cover the types and use of ladder logic and various components such as input, output and diagrams. The structure, symbols and terminology of ladder logic diagrams will be introduced. Logic and decision-making functions are presented, along with practice in creating ladder logic diagrams. 2 hrs. lecture/wk.

HVAC 146
PLUMBING SYSTEMS APPLICATIONS (3 CR)

Upon successful completion of this course, the student should be able to demonstrate familiarity with many aspects of fuel gas piping, gas appliance venting, water heater installations, combustion air requirements and proper piping techniques. Classroom lectures center on methods for proper sizing of both fuel gas piping and vent sizing with emphasis on interpretation of both the Uniform Plumbing Code and the National Fuel Gas Code. There will be an emphasis on combustion air requirements. Laboratory competencies will include identification of materials and proper installation methods of fuel gas lines, vent piping systems and copper water line connections. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

HVAC 148
HVAC INSTALL & START-UP PROCED (3 CR)

Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify techniques and procedures to install new systems, retrofit systems and do an initial start-up, check-out furnaces and air conditioners. Topics will include electrical requirements, flue appliance location, permit and inspections, combustion air, sheet metal ducts, and mechanical standards. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

HVAC 150
REFRIGERANT MANAGT/CERTIFICAT (1 CR)

Upon successful completion of this course, the student should have knowledge and confidence necessary to pass the EPA Refrigerant Certification exam and properly, efficiently and responsibly handle refrigerants as set forth in the Clean Air Act of 1990. 1 hr. lecture/wk.

HVAC 155
WORKPLACE SKILLS (1 CR)

Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career in the field of their choice. Topics included listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, time and resource management, work ethics, career planning and resume building. 1 hr. lecture/wk.

HVAC 167
SHEET METAL LAYOUT/FABRICATION (3 CR)

Upon successful completion of this course, the student should be able to identify the components, equipment and operation for sheet metal layout and fabrication. Practice problems are included at the end of each unit in order to provide the

student with an opportunity to apply the methods attained by sheet metal layout. Shop facilities are available. The patterns will be fabricated and joined into a line of fittings. This gives the most complete test of pattern accuracy and also provides the experience needed by a competent layout person. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

HVAC 221
COMMERCIAL SYSTEMS/AIR/COND (4 CR)
Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify cooling systems used in commercial, institutional and industrial applications. Types of equipment include reciprocating and centrifugal chillers, absorption systems, cooling towers, fans and air handlers. Topics also include psychometrics, pressure-enthalpy diagrams and commercial load calculations, evacuation and charging. 3 hrs. lecture, 3 hrs lab/wk.

HVAC 223
COMMERCIAL SYSTEMS:HEATING (4 CR)
Prerequisite: HVAC 123

Upon successful completion of this course, the student should be able to identify large heating systems used in commercial, institutional and industrial applications. Types of equipment include hot water, low-pressure and high-pressure steam boilers; auxiliary, safety and flame safeguard controls; steam traps; condensate return; and water treatment systems. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 229
ADVANCED CONTROLS SYSTEMS (4 CR)
Prerequisite: HVAC 123 and HVAC 121

Upon successful completion of this course, the student should be able to identify the components and theory in electronic, pneumatic and direct digital control systems as they apply to HVAC systems. This course will reinforce and build on those competencies learned in HVAC 123 and HVAC 121. Classroom lectures will center on components, wiring diagrams, calibration and sequences of operation, system components, theory of operation, wiring diagrams and installation methods. Laboratory competencies include identification, calibration, maintenance and problem diagnosis of pneumatic, electronic and DDC systems, thermostat controllers and their related sensors/transmitters. Students will program a complete building energy management system. Interactive instructional media will be used in this course. 3 hrs. lecture, 3 hrs. lab/wk

HVAC 231
HVAC ROOFTOP UNITS (3 CR)
Prerequisites: HVAC 121 and HVAC 123

Topics will include electrical controls and economizers of various rooftop units, roof curbs, installation, service, diagnosis, evacuation and charging of typical light commercial rooftop units. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 2 hrs. lecture, 3 hrs. lab/wk.

HVAC 235
RESIDENTIAL HEAT PUMP SYSTEMS (4 CR)
Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify the function of all components and accessories of all electric and dual heat pump systems. Topics will include electric heat and heat pump fundamentals, principles and applications; refrigerant flow controls; defrost cycle controls; heat pump thermostats; indoor air distribution; dual fuel controls; and change-over stats.

Emphasis will be on the electrical diagrams and mechanical principles of operation. These systems, as well as practical instruction in service and diagram procedures and techniques for the efficient operation, maintenance, troubleshooting and repair of these systems, will make up the lab portion of the course. The student will required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 271
HVAC INTERNSHIP (3 CR)
Prerequisite: Approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

History (HIST)

HIST 120
LOCAL AND KANSAS HISTORY (3 CR)

This course introduces students to the history of Kansas from the beginning of the Late Ceramic Period (1500) to the present. Emphasis will be on the examination of the living patterns of the various peoples who have inhabited the region during this time frame. This course will also analyze the social and economic factors and political objectives that transformed the central plains from the domain of the bison-hunting Plains Indian to a society based in a market-agricultural economy. 3 hrs./wk.

HIST 125
WEST CIV: RDGS/DISCUSSIONS I (3 CR)

The course explores the major developments, ideas and personalities that have shaped Western civilization. Organized around a readings and discussion format, students engage some of the world's most provocative and influential literature. Western Civilization I begins with the ancient cultures of the Middle East, Greece and Rome and follows the development of Western thought from the medieval period to the Renaissance and Reformation. 3 hrs./wk.

HIST 126
WEST CIV: RDGS/DISCUSSIONS II (3 CR)

The course explores the major developments, ideas and personalities that, for the past 500 years, have shaped Western civilization. Organized around a readings and discussion format, the course allows students to engage some of the world's most provocative and influential literature. Western Civilization II begins with the three revolutions that define modernity - Scientific, French, and Industrial. The course also highlights the new ideologies of the 19th century and more recent themes of modernization and the cultural crisis of the 20th century.

HIST 130
EUROPEAN HISTORY FROM 1750 (3 CR)

This course covers the major political, intellectual, and economic and social developments in Europe from the end of the 18th century to the present, including modern political ideologies, major wars, the growth of strong governments, the effect of modern science on social and political thought, the Industrial Revolution, the creation of large middle classes, and the effect of modern technology. 3 hrs./wk.

HIST 132
HISTORY OF AFRICA (3 CR)

This course introduces students to the history of Africa until the present. It emphasizes the fundamental characteristics and long-term developments in the evolution of African political and socioeconomic institutions. 3 hrs./wk.

HIST 135
EASTERN CIVILIZATION (3 CR)

This course is an introduction to the societies and cultures of Asia. Through lectures, readings and discussions, the course will focus on aspects of the history, politics, art, literature and economics of China, Japan and India. The major traditional themes and concepts of these civilizations will be stressed. 3 hrs. /wk.

HIST 137
AFRICAN AMERICAN STUDIES (3 CR)

This course surveys the major themes and developments in African-American culture and history from the colonial period to the present. The course is divided into three 5-week segments. Each segment relates to a historical period - slave, post-emancipation and contemporary -- and each segment also permits a flexible, interdisciplinary approach that will include literature, arts and social sciences. 3 hrs. lecture/wk.

HIST 140
U.S. HISTORY TO 1877 (3 CR)

This survey course in U.S. history will emphasize developments and trends in American society from the early period of discovery and settlement through Reconstruction. Topics will include the Colonial era, the Revolutionary period, the Federalist era, the expansion of the Republic during the mid-19th century, and the Civil War and Reconstruction. The emphasis will be on analysis and interpretation of these developments. 3 hrs./wk.

HIST 141
US HISTORY SINCE 1877 (3 CR)

This survey course will emphasize developments and trends in American society from the 1870s to the late twentieth century. Topics will include the Reconstruction era, industrialization, immigration, reform movements, World Wars I and II, social and cultural trends, and foreign policy. Emphasis will be on analysis and interpretation of these developments. 3 hrs./wk.

HIST 151
WORLD HISTORY I: TRAD WORLD (3 CR)

This course provides students an introduction to the history of the major world civilizations up to approximately 1500. Upon successful completion of the course, students will be able to identify the major political, social, economic and technical developments in the histories of Egypt, Mesopotamia, other Near Eastern civilizations, Rome, Greece, India, China, sub-Saharan Africa, pre-Columbian America and medieval Europe. Students will be able to define the concept of a traditional, as opposed to a modern, society. They will be able to compare these societies with each another and with the modern society of the contemporary United States. 3 hrs. lecture/wk.

HIST 152
WORLD HISTORY II: MODERN WORLD (3 CR)

This course provides students an introduction to the history of the world since approximately 1500. Upon successful completion, students will be able to describe and analyze the development of modernism, which occurred first in the West, including the scientific revolution, secularism, industrialism and the rise of new political ideologies. They will be able to trace the expansion of modernization in both the Western and non-Western worlds and the response to modernism in non-Western countries. 3 hrs. lecture/wk.

HIST 160
MODERN RUSSIAN HISTORY (3 CR)

This course will survey the history, culture, foreign policy, politics and socioeconomic events in Russia from the time of Peter the Great to the present. 3 hrs./ wk.

HIST 162
MODERN LATIN AMERICA (3 CR)

This course is an examination of the economic, social, political and cultural history of Latin America since independence. Regional identities, such as Central America, and independent national states, such as Cuba and Mexico, are explored. Literary and intellectual trends together with contemporary popular culture are featured in the course. 3 hrs./wk.

HIST 164
JAPAN: CHANGING TRADITION (3 CR)

This self-paced course explores Japanese history, politics and economics from the early days of the Tokugawa regime from 1500 to the present. The thrust of the course is geared to exploring the themes that permeate the Japanese experience over the past two centuries.

Home Economics (HMEC)

HMEC 151
NUTRITION AND MEAL PLANNING (3 CR)

This course covers the basic food groups, their use in meal planning, their functions and their nutritional values. In addition to the current trends in eating, this course covers diets and exercise, as well as fad diets, life-cycle nutritional needs, and the effects of nutrient intake on growth and development. This is a required course for the food and beverage program and the chef apprenticeship program. 3 hrs./wk.

Honors Program (HON)

HON 250
HONORS:IN SEARCH OF SOLUTIONS (3 CR)

This course will focus on two topics during the semester and how those topics affect the local, national and global communities. The course complements other courses in the curriculum by applying the dual emphase of specific content and skill development to the areas of interaction, analysis, synthesis and conflict resolution. Students will study each issue in a historical and contemporary context, develop a greater understanding of the issues, and take a position on the issues. This position will be subjected to further challenge and dialogue. In this course, the process of reflecting, researching, analyzing and evaluating are as important as content. As points of view concerning the issue are developed, the students must articulate and defend these viewpoints as they are challenged by others and make judgments among alternative options. The first topic is selected by the faculty members, then midway through the semester, the students will select the second topic. This course will require students to use many forms of research, including the Internet and electronic databases. In addition, students will be expected to use e-mail for sharing information with classmates and instructors.

Horticulture (HORT)

HORT 115
HOME HORTICULTURE (2 CR)

This course provides basic knowledge for the design and management of home

lawns, flower and vegetable gardens, and landscape trees and shrubs. Students will learn basic plant anatomy and physiology concepts; how to recognize some common plant deficiency symptoms; the use of fertilizers and pesticides; identification of some common trees, shrubs and garden plants; and the major considerations of good landscape design. 1 hr. lecture, 2 hrs. lab/wk.

HORT 120
INTRO TO URBAN AGRIBUSINESS (3 CR)

This is a general survey course for students who wish to learn more about the broad field of agribusiness. Particular emphasis is on the many facets of landscape and grounds management. Career areas that will be covered are interior landscaping, greenhouse management, the position of pesticide applicators' and

HORT 130
LANDSCAPE DESIGN/MAINTENANCE (3 CR)

This course is designed to familiarize students with aspects of landscape design, plant selection and maintenance. Upon completion, the student will be able analyze both the site and the preferences of the person requesting the design. The student will be introduced to the concepts and principles of landscape design as well as the walls and ceilings of the outdoor room or landscape. The course will cover form, texture and color in both plant selection and embellishments. The student will learn how to complete and apply a landscape design and make a hand drawing as well as be introduced to the concept, application and procedures of computer-aided design. 3 hrs. lecture/wk.

HORT 140
TURF MANAGEMENT I (3 CR)

This course is designed to familiarize students with all the major cool- and warm-season turfgrasses as well as with the adaptation and tolerances, cultural management, and major disease and insect pests of each major category of turfgrass. Upon successful completion of this course, students should demonstrate the ability to properly identify the major categories of turfgrass and to establish a turfgrass based on their knowledge of seeding, sodding, sprigging, plugging and past establishment procedures. Students should also be able to develop a pest and disease control program for each major category of turfgrass. 3 hrs./wk.

HORT 150
FRUITS,VEGETABLES & HERB CROPS (2 CR)

This course is designed to familiarize garden center employees with the plant materials and production of crops many homeowners use and grow. This course will help the employee answer many homeowner questions about production, varieties and potential crop problems. Home hobbyists may also wish to enroll in this course. 1 hr. lecture, 2 hrs. lab/wk.

HORT 160
GARDEN CENTER OPERATIONS (3 CR)

This course is designed for garden center employees and provides background on the elements necessary for success in a competitive retail environment. The business organization is emphasized, including environmental monitoring, selling, inventory issues, merchandising, advertising, cost effectiveness, labor/team relationships and customer service. In addition, safety and legal issues are examined. 3 hrs. lecture/wk.

HORT 201
INTRODUC/HORTICULTURAL SCIENCE (4 CR)

Prerequisite: High school biology/botany or concurrent enrollment in BIOL 125

This is an introduction to the principles and practices of horticultural plant systems. Plant structure and function will be discussed, along with the effects of

environmental factors on plant growth. General cultural practices will be described, including pest control, mineral nutrition and plant propagation. 3 hrs. lecture, 2 hrs. lab/wk.

HORT 205
PLANT PROPAGATION (3 CR)

Prerequisite: HORT 201

This course provides basic knowledge of the art and science of sexual and asexual methods of propagating plants. Students study the processes of seed development, seed dormancy, germination, root initiation and grafting. Students will learn basic seed sowing, cutting and grafting skills. The students will be able to demonstrate the selection of appropriate propagation methods and choose the proper environmental conditions necessary to achieve successful propagation of seeds or cuttings. 2 hrs. lecture, 2 hrs. lab/wk.

HORT 210
CONCEPTS OF FLORAL DESIGN (3 CR)

This is an introductory course for students to learn the design basics of flower arranging. The course will help the students develop an eye for color combinations, flow of lines, balance, geometric shapes and textures in materials used, mechanics of design, customer perspectives and the post-harvest care of floral materials. 2 hrs. lecture, 3 hrs. lab/wk.

HORT 214
WOODY PLANTS I, DECIDUOUS (3 CR)

This course will assist the grounds maintenance employee, landscaper, garden center employee and home hobbyist in identifying plant materials used in the landscape. This class places emphasis on deciduous trees sold in garden centers and used in climatic zones 5 and 6. Plant uses, specific characteristics, cultivation, seasonal effects and influences that affect plant choices will be taught. 2 hrs. lecture, 3 hrs. lab/wk.

HORT 215
WOODY PLANT II, EVERGREENS (3 CR)

This course will assist the grounds maintenance employee, landscaper, garden center employee and home hobbyist in identifying evergreen trees and shrubs and flowering shrubs sold in garden centers used in climatic zones 5 and 6. The plant uses, specific characteristics, plant cultivation, seasonal effects, influences that affect plant choices and customer services attributes will be taught. 2 hrs. lecture, 3 hrs. lab/wk.

HORT 220
HERBACEOUS PLANTS (3 CR)

This course will focus on the identification and uses of perennials, annuals, bulbs, ground covers and vines. The course will assist the grounds maintenance employee, landscaper, garden center employee and home hobbyist in identifying and selecting herbaceous plant materials used in the landscape. Culture and care will be covered, with additional emphasis on uses and maintenance. The student will also cover the more creative aspects of landscape enhancement and uses of herbaceous plants in garden design. 2 hrs. lecture, 3 hrs. lab/wk.

HORT 225
PLANT PROBLEMS (3 CR)

Prerequisites: HORT 214 and HORT 220

This course is a broad-spectrum overview of plant insects diseases and nutrition. Students will look at plants to identify the common characteristics found when diagnosing plant problems. Identification, treatment and treatment alternatives will be considered to help customers make diagnostic decisions for the use of chemicals and integrated pest management techniques (IPM). 2 hrs. lecture, 3 hrs. lab/wk.

HORT 230
LANDSCAPE MAINT/TECHNIQUES (4 CR)

Prerequisite and/or corequisite: HORT 225

This course prepares garden center and lawn care professionals for the total care of the landscape. Mowing, edging, pruning techniques, fertilization, watering, spray schedules and weed control will be covered. Mulches, construction materials and equipment used in maintaining landscapes and seasonal enhancements are examined as they pertain to the landscape. Irrigation systems repair and maintenance for residential and commercial landscapes will be discussed. In addition, the student will learn to design preventive strategies and identify and examine disease and insect damage as well as maintain good customer relations. 3 hrs. lecture, 3 hrs. lab/wk.

HORT 240
TURFGRASS MANAGEMENT II (3 CR)

Prerequisite: HORT 140

More specific information is provided on turfgrass management. Topics include green construction, top dressing, sprayer calibration, management programs (e.g., setting up a lawn care program) and the influence environment has on turfgrass growth. 3 hrs. lecture/wk.

HORT 255
LANDSCAPE PEST CONTROL (3 CR)

This course will explore the general concepts of turf and ornamental maintenance and pest control in the local area. The student will become familiar with federal and state regulations pertaining to horticulture chemical application. Upon completion of this course, the student should be prepared to take the Kansas or Missouri licensing examination to become a certified applicator of restricted horticultural pesticides and herbicides. 3 hrs. lecture/wk.

Hospitality Management (HMGT)

HMGT 120
FOOD SERVICE SANITATION (1 CR)

This course covers the basic principles of providing and serving safe food. It also provides the student with safe food-handling procedures necessary to manage a sanitary and safe food service operation in compliance with the National Food code and the National Restaurant Association. 1 hr. lecture/wk.

HMGT 121
HOSPITALITY MGT FUNDAMENTALS (3 CR)

This course contains the organization of the food service and public lodging industries. The student should also be able to describe the departmental functions, positions of the industries in the American economic system, and functions and limitations of these types of establishments. 3 hrs./wk.

HMGT 123
BASIC FOOD PREPARATION (3 CR)

The student should be able to demonstrate skills in grilling, frying, broiling, sauteing, recipe conversion, salad preparation and the production of the five basic sauces. Also, the student should be able to operate the food service equipment used in commercial kitchens in a safe manner. 3 hrs./wk.

HMGT 126
FOOD MANAGEMENT (4 CR)

Prerequisites: HMGT 123, HMGT 145, HGMT 230, HMGT 277 and admission to the hospitality management program

This course offers an overview of restaurant management practices used in the hospitality industry. Emphasis will be on demonstrating the components of menu planning and the styles of food service used for various occasions -- buffet service and French, Russian and American service. The student will participate in the operation of the campus restaurant, including food preparation, service, sales promotion, purchasing and costing. 7 hrs./wk.

HMGT 128
SUPERVISORY MANAGEMENT (3 CR)

This course contains the basic supervisory management skills, management styles, motivation with emphasis on human relations, delegation, training, evaluation and communication. In addition, the hiring and firing functions within FLSA guidelines will be covered. 3 hrs./wk.

HMGT 130
HOSPITALITY LAW (3 CR)

This course offers an overview of product and dram shop liability as well as of the various areas of federal and state legislation that regulate the hospitality industry. Emphasis will be on familiarizing the hospitality manager with ways to avoid costly and time-consuming lawsuits. A manager's or owner's legal rights and responsibilities also will be discussed. Upon successful completion of this course, the student should be able to recognize potential legal problems. 3 hrs./wk.

HMGT 132
SEMINAR:HOUSEKEEPING OPERATION (3 CR)

This course presents a systematic approach to managing housekeeping operations in the hospitality industry. The course will also include related health department and OSHA regulations. While enrolled in this class, a student must work a minimum of 15 hours a week in a lodging operation. The work experience is concurrent but does not necessarily concentrate on the subject being taught in the course. 2 hrs./wk.

HMGT 145
FOOD PRODUCTION SPECIALITIES (3 CR)
Prerequisite: HMGT 123

This course covers the fundamentals of convenience baking, hors d'oeuvre and cold kitchen preparation. It provides knowledge of and basic skills in the pastry kitchen, where the student can handle convenience products from the frozen or dried state and produce finished pies, cakes and dessert items. It provides further knowledge of and skill in the garde-manger kitchen, specifically making salads, cocktail hors d'oeuvres and coctail sandwiches, as well as making economic purchases for gourmet food items. In addition, the student will learn how to make intermezzo ices, identify different types of cheese, and design and make a general plan for a buffet. 1 1/2 hrs. lecture, 2 hrs. lab/wk.

HMGT 203
HOTEL SALES AND MARKETING (3 CR)
Prerequisites: HMGT 121 and admission to the hospitality management program

This course will focus on practical sales and marketing techniques for the hotel industry. It will cover a marketing plan and advertising campaign for a hotel, including identifying target markets, prospecting for sales leads and using sales techniques. 3 hrs. lecture/wk.

HMGT 221
DESIGN TECHNIQUES (3 CR)
Prerequisites: HMGT 123 and HMGT 271

This course includes detailed information about food service design that covers layout, design and equipment specifications. In addition, facilities operations will be discussed regarding electrical, water and transportation systems, refrigeration,

waste disposal, energy management, and HVAC. Preventive maintenance will be emphasized. 3 hrs./wk.

HMGT 223
FUNDAMENTALS OF BAKING (3 CR)

Prerequisite: HMGT 145

This course covers bakeshop production as it relates to the basic principles of ingredients, measurements, mixing, proofing, baking and final presentation. In addition, the student will be able to identify the various types of baking equipment used in the preparation of bakeshop products. The class includes lecture and participation. 1 hr. lecture, 2.5 hrs. lab/wk.

HMGT 226
GARDE-MANGER (3 CR)

Prerequisite: HMGT 123 and HMGT 145

This course is designed for the student to learn cold food production and charcuterie. The course will allow the student to develop fundamental principles of the cold kitchen and modernize traditional methods of salad preparation. 1 hr. lecture, 2.5 hrs. lab/wk.

HMGT 228
ADVANCED HOSPITALITY MANAGEMT (3 CR)

Prerequisite: Hospitality management program approval

This course includes detailed information about various components of menu planning, food service, supervision, design and beverage control. In addition, an understanding of the external factors affecting the hotel-restaurant industry will be discussed. Skills necessary to secure a position in management within the hospitality industry will be emphasized, and case studies and computer simulation (HOTS) will be used for critical thinking analysis. Business plans will be developed as part of the course project. 3 hrs./wk.

HMGT 230
INTERMEDIATE FOOD PREPARATION (3 CR)

Prerequisite: HMGT 123

This course is designed to help the student's transition from basic to intermediate food skills. Upon successful completion of this course, the student should be able to demonstrate the skills necessary to prepare standard menu items as well as a range of American regional cuisines. This course consists of lecture, demonstration and participation in food preparation. 1 hr. lecture, 2.5 hrs. lab/wk.

HMGT 231
ADVANCED FOOD PREPARATION (4 CR)

Prerequisites: HMGT 145 and HMGT 230

This course is designed to develop a student's advanced culinary skills in preparation of international cuisine commonly served in today's operations in Latin America, Europe, Asia, the Middle East, the Far East and the Pacific area. 4 hrs. lecture/wk.

HMGT 240
ADVANCED BAKING (4 CR)

Prerequisites: HMGT 123 and HMGT 223

This course covers the principles needed to enter the baking and pastry industry. The course provides knowledge of specialty ingredients and techniques needed to make tortes, finished desserts and a wedding cake. The student will be instructed in the making of these items through lecture and will prepare a variety of such items in lab. 4 hrs. lecture, lab/wk.

HMGT 248
CONFECTIONERY ARTS (3 CR)

This course covers the design and production of artistic centerpieces made from confections. It provides knowledge of and basic skills in making decorative dining table centerpieces using food products such as cooled and pulled sugar syrup, isomalt, pastillage, marzipan and chocolate. The student will be instructed in the preparation of these ingredients and will construct center and showpieces after viewing demonstrations. 4.5 hrs. lecture, lab/wk.

HMGT 250
INTRODUCTION TO CATERING (3 CR)

This course includes detailed information about the different types of catered events within the hospitality industry. Topics covered include the importance of marketing, contract writing, food production, room arrangements and required personnel relative to specific catered events. 3 hrs. lecture/wk.

HMGT 265
FRONT OFFICE MANAGEMENT (3 CR)

This course provides a full understanding of the flow of business, from the front office, beginning with the reservations process to checkout and settlement. It also includes the night audit and statistical analysis of rates and revenue management. 3 hrs./wk.

HMGT 268
HOTEL ACCOUNTING (3 CR)

Prerequisites: MATH 120 and HMGT 121 and HMGT 273

This course introduces the student to basic hotel managerial accounting. This includes accounting concepts, processing data and the flow of financial information within a hotel. The course provides a working knowledge of an income statement, balance, statement of owner's equity and cash flows. 3 hrs. lecture/wk.

HMGT 271
SEMINAR HMGT MGT: PURCHASING (3 CR)

This course offers an overview of purchasing techniques and specification writing for commodities used in the hospitality industry. Emphasis will be on decision-making skills in the areas of quality, quantity, specifications and general value analysis. Two hours in class and a minimum of 15 hours a week are required in a supervised work situation in an approved area of the hospitality industry. Work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 273
HOSPITALITY COST ACCOUNTING (3 CR)

Prerequisites: MATH 120 or higher and HMGT 121

This course includes detailed information on how to prepare operation statements for a food service operator, including inventory and control systems. Areas of concentration will be food cost controls, labor cost controls, purchasing controls and profit production. The practice set will be used to reinforce control systems. 2 hrs./wk.

HMGT 275
SEM HOSPITALITY MGT INTERNSHIP (3 CR)

Prerequisite: Admission to the Hospitality Management rogram

This course provides industry experience for students in cooperating businesses, agencies and organizations. While enrolled in this course, a student must work a minimum of 320 hours in an approved position in the hospitality industry. By arrangement.

HMGT 277
SEM MENU PLANNING SALES PROMO (3 CR)

Prerequisite: HMGT 123

This course covers the components of menu planning for every type of service and facility. This course also covers menu layout, selection development, price structures and the theory of menu design. A minimum of 15 hours a week is required in a supervised work situation in an approved area of the hospitality industry. Work experience is concurrent but does not necessarily concentrate on the subject being taught in this course. 2 hrs./wk.

HMGT 279
BEVERAGE CONTROL (3 CR)

This course covers the history of wines and their use and storage procedures. The students should gain an understand of beverage control and how it is used in all types of operations. The course will also cover in-depth study of spirits, internal control systems and local/state alcoholic beverage control laws. 3 hrs./wk.

HMGT 282
CULINARY ARTS PRACTICUM II (2 CR)

Prerequisite: HMGT 281

A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum I.

HMGT 285
CULINARY ARTS PRACTICUM III (2 CR)

Prerequisite: HMGT 282

A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum II.

HMGT 286
CULINARY ARTS PRACTICUM IV (2 CR)

Prerequisite: HMGT 285

A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum III.

HMGT 287
CULINARY ARTS PRACTICUM V (2 CR)

Prerequisite: HMGT 286

A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum IV.

HMGT 288
CULINARY ARTS PRACTICUM VI (2 CR)

Prerequisite: HMGT 287 and approval of hospitality management assistant dean

A qualified chef who is a member of the American Culinary Federation will

supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This course is a continuation of Culinary Arts Practicum V.

Humanities (HUM)

HUM 122
INTRODUCTION TO HUMANITIES (3 CR)

This interdisciplinary study begins with a look at artistic and technical elements of several art forms, including painting, sculpture, architecture, music, theater, film, dance and literature. Major themes expressed in the works and their reflection of the values of their culture are also examined.

HUM 137
INTRO TO RUSSIAN CULTURE (3 CR)

This course is a survey of the cultural history of Russia from the ninth century to the present. The approach will be interdisciplinary, examining representative examples of Russian art, architecture, music, theater, dance, literature and philosophy in their historical context. In addition to developing the students' appreciation of Russia's contribution to world culture, the course aims to enhance students' understanding of the contemporary world. 3 hrs. lecture/wk.

HUM 138
INTRO/RUSSIAN CULTURE/FIELDSTY (1 CR)
Prerequisite: HUM 137 or approval of instructor

This course is the field study portion of the HUM 137, Introduction to Russia, course. Students study, on site, selected works of art , architecture, music, literature, theater and film for the various historical periods from the perspective of Russian experts in these fields. In addition, students enhance their knowledge of Russian history by visiting the sites of many of the major events that have shaped the development of Russia's culture. 2 hrs. lab/wk.

HUM 145
INTRO TO WORLD HUMANITIES I (3 CR)

This course will acquaint students with the arts and ideas of the world's major civilizations, from antiquity through the late Middle Ages (pre-Renaissance). The approach will be interdisciplinary, covering the artistic values embodied in painting, sculpture, architecture, literature, theater, music and dance as they have emerged out of their historical contexts. In addition to providing the fundamental principles, methodologies and theories used in the study of the humanities, the course aims to enhance students' understanding of the contemporary world. 3 hrs. lecture/wk.

HUM 146
INTRO TO WORLD HUMANITIES II (3 CR)

This course will acquaint students with the arts and ideas of the world's major civilizations, from the Renaissance to the present. The approach will be both interdisciplinary and chronological, covering the artistic values embodied in painting, sculpture, architecture, literature, theater, music and dance as they have emerged from their historical contexts. In addition to providing the fundamental principles, methodologies and theories used in the study of the humanities, the course aims to enhance students' understanding of the contemporary world. 3 hrs. lecture/wk.

HUM 155
CLASSICAL MYTHOLOGY (3 CR)

This course provides a systematic study of the myths and epic cycles of the

Greeks and Romans in both literature and art and investigates their survival and metamorphosis in the literature and visual arts of Western Europe. In addition, this course provides several methodological frameworks with which to analyze several types of tales and their relation to history, religion, rituals and art.

HUM 164
CIVILIZATION (3 CR)

This course covers the major ideas and events of Western civilization communicated through the arts. The course begins after the fall of the Roman Empire and includes material to the 20th century.

Industrial Technology (INDT)

INDT 125
INDUSTRIAL SAFETY (3 CR)

Upon successful completion of this course, the student should be able to identify various industrial safety and health considerations, list basic safety rules and regulations, identify the proper personal protective equipment needed for common industrial tasks and recognize the need for an ongoing safety program. 3 hr. lecture/wk.

INDT 140
QUALITY IMPROVEMENT USING SPC (2 CR)

Upon successful completion of this course, the student should be able to describe and apply basic concepts of quality improvement. This course will examine the application of the "Transformation of America" concept to American businesses. Statistical process control will be introduced as a tool to improve quality. W. Edwards Deming's 14 points and the management changes required to implement quality improvement also will be covered. 2 hrs. lecture/wk.

INDT 155
WORKPLACE SKILLS (1 CR)

Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career in the field of his or her choosing. Topics include listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, time and resource management, work ethics and career planning. 1 hr. lecture/wk.

Information Technology (IT)

IT 200
NETWORKING TECHNOLOGIES (3 CR)

This course is designed to provide students with the fundamentals of networking technology. Concepts covered include network terminology and protocols, network standards, LANs and WANs, the layers of the OSI reference model, cabling practices, network topologies, and IP addressing.

IT 205
IMPLEMENTING WINDOWS CLIENT (3 CR)

The focus of this course is the use of Microsoft Windows as an operating system in a business environment. Planning a simple network system, installation and configuration of the software and hardware, resource management, connectivity, running application software under Windows, monitoring and optimizing system hardware, and troubleshooting all lead the student to a deeper understanding of local area network use and administration. 2 hrs. lecture, 3 hrs. lab/wk.

IT 210
NETWARE ADMINISTRATION (3 CR)

Prerequisites: IT 200 and ELEC 124 and either IT 205 or IT 220

This course is designed to provide students with the necessary knowledge and skills to perform competently in the role of a NetWare network administrator. Students completing this course will be able to accomplish basic network management tasks. Topics covered include managing user accounts; planning and managing the network file system; managing NetWare Directory Services (NDS); implementing login, file system and NDS security; and implementing network printing. 2 hrs. lecture, 3 hrs. lab/wk.

IT 221
WINDOWS SERVER (3 CR)

Prerequisites: IT 200 and ELEC 124 and either IT 205 or IT 220

This course is designed to provide students with the knowledge and skills to perform competently in the role of a network administrator using the Windows Network Operating System. Students completing this course will be able to accomplish basic fundamental network management tasks, including planning server roles and subsequent requirements, planning the network file system, implementing user accounts and file system security, implementing network printing, and managing the network servers. 2 hrs. lecture. 3 hrs. lab/wk.

IT 225
WINDOWS ACTIVE DIRECTORY SERVI (3 CR)

Prerequisite: IT 221

The focus of this course is using Microsoft Windows 2000 Server or Advanced Server software to install, configure and troubleshoot Active Directory components, Domain Name Space (DNS) for Active Directory and Active Directory security solutions. The course also emphasizes the skills required to manage, monitor and optimize the desktop environment using Group Policy. 2 hrs. lecture 3 hrs. lab/wk.

IT 227
SQL SERVER ADMINISTRATION (3 CR)

Prerequisite: IT 221

Upon successful completion of this course, the student should be able to administer an SQL server installation. Topics covered include installing, upgrading and configuring SQL servers using SQL utilities; working with databases and users; backing up and restoring databases and log files; automating maintenance tasks; managing, copying and moving data; replicating; tuning; and troubleshooting. 2 hrs. lecture, 3 hrs. lab/wk.

IT 228
EXCHANGE SERVER (3 CR)

Prerequisite: IT 225

This course is designed to provide network administrators with information that enhances their ability to manage an Exchange server network. Included are topics related to server and client mail management and server performance, e-mail concepts and advanced Internet networking. 3 hrs. lecture, 2 hrs. lab/wk.

IT 230
UNIX ADMIN AND NETWORKING (3 CR)

Prerequisites: IT 200 and ELEC 124 and either IT 205 or IT 220

This course is designed to provide students with a fundamental understanding of the UNIX operating system environment. Students successfully completing this course will be able to plan server roles and subsequent requirements, execute common Unix commands and utilities, and accomplish basic system tasks such as navigating the file system, applying file system security, managing user accounts, installing and configuring user software, using the printing environment,

and managing the resources of a basic Unix system. 2 hrs. lecture, 3 hrs. lab/wk.

IT 231
UNIX ADMINSTRAT IN ENTERPRISE (3 CR)
Prerequisite: IT 230

This course is designed to provide students with the necessary knowledge and skills to perform competently as a Unix system administrator. Students successfully completing this course should be able to perform basic system administration tasks including installing, configuring and troubleshooting a basic Unix system, managing devices, implementing the printing environment, creating and maintaining file systems, installing packages, and configuring the graphical user interface. 2 hrs. lecture, 3 hrs. lab/wk.

IT 245
NETWORK INFRASTRUCTURE (3 CR)
Prerequisite: IT 221

This course is designed to provide an in-depth understanding of the ability to install, manage, monitor, configure and troubleshoot DNS, DHCP, Remote Access, Network Protocols, IP Routing and WINS in a Windows 2000 network infrastructure. In addition, it will provide an in-depth understanding of the ability to manage, monitor and troubleshoot Network Address Translation and Certificate Services. Laboratory exercises will accompany the lectures. 2 hrs. lecture, 3 hrs. lab/wk.

IT 246
INTRODUCTION TO ROUTERS (3 CR)
Prerequisite: IT 200

This course is designed to provide students a fundamental understanding of network routing and the operation of routers. Topics include installing and configuring routers, OPSF and Link State routing protocols, working with metrics and route selection, and TCP/IP configuration. Programming and setup using Cisco routers will be conducted. Laboratory exercises will accompany lectures. 2 hrs. lecture, 3 hrs. lab/wk.

IT 247
INTRO TO WIDE-AREA NETWORKS (3 CR)
Prerequisite: IT 246

This course is designed to provide students a fundamental understanding of internetworking. Topics include local area network segmentation using switches and routers. Wide area network physical technologies will be studied. Configuring WAN protocols using PPP, ISDN and Frame Relay will be presented. Securing the network with standard and extended access lists will be performed. IP and IPX routing will be covered. Programming and configuration will be conducted using Cisco routers and switches. Laboratory exercises will accompany lectures. 2 hrs. lecture, 3 hrs. lab/wk.

IT 249
ADVANCED ROUTING (3 CR)
Prerequisite: IT 247

This course provides advanced instruction of Cisco routers found in medium to large networks. It is intended for students preparing for advanced Cisco certification. Upon completion of this course, the student will be able to select and implement the appropriate Cisco services required to build a scalable router network. Topics covered include extending IP addressing, implementing OSPF for a single area and multiple areas, configuring EIGRP, and implementing BGP. This course will follow semester five in the Cisco Networking Academy curriculum.

IT 250
NETWORKING SEMINAR (3 CR)

Prerequisite: IT 240 or ELEC 185 and either IT 211 or IT 222

This course is designed to teach advanced concepts in information technology. Topics covered are section specific and include e-mail servers, Web servers, database servers, routing, switching and advanced LAN design concepts. Prerequisites are posted for each section. Students may use this course as a capstone for applying concepts and procedures developed in previous courses using realistic business scenarios. 2 hrs. lecture, 3 hrs. lab/wk.

IT 251
NETWORK SECURITY FUNDAMENTALS (4 CR)

Prerequisites: IT 230 and IT 221 and IT 246

This course is designed to provide students with a fundamental understanding of network security principles and implementation. Topics covered include authentication, the types of attacks and malicious code that may be used against computer networks, the threats and coutermeasures for e-mail, Web applications, remote access, and file and print services. A variety of security topologies will be discussed as well as technologies and concepts used for providing secure communication channels, secure internetworking devices, intrusion detection systems, and firewalls. Hands-on exercises will be used to reinforce the concepts. 3 hrs. lecture, 2 hrs. lab/wk.

IT 271
INFORMATION TECH INTERNSHIP I (3 CR)

Prerequisites: IT 210 or IT 221 or IT 230 and approval of division administrator

This course affords the student the opportunity to apply classroom knowledge to an actual work environment. It will provide advanced information technology students with appropriate on-the-job experience with area employers, under instructional oversight, which will promote the student's career goals. Student will work a total of 225 hours a semester at an approved job site.

IT 272
INFORMATION TECH INTERNSHIP II (3 CR)

Prerequisites: IT 271 and approval of the division administrator

This course is a continuation of IT 271, Internship I. It provides the student additional opportunity to apply classroom knowledge to an actual work environment. Students will work a total of 300 hours per semester at an approved job site.

Interactive Media (CIM)

CIM 130
INTERACTIVE MEDIA CONCEPTS (2 CR)

This is a survey course, that introduces students to the interactive media field. Topics to be covered include the definition of interactive media, the basic stages of interactive media creation and project management fundamentals. Current and future trends in interactive media will also be covered. 2 hrs. lecture/wk.

CIM 133
SCREEN DESIGN (4 CR)

Prerequisites: CDTP 135 and CDTP 131 or CDTP 140 or BOT 260

This course will cover fundamental visual principles and the creation of graphic elements, as well as the layout of those visual elements, for the computer screen. Visual perception, composition, color and typographic principles will be covered as applicable to presentation graphics, Web graphics, CD-ROM and kiosk graphics. Cross platform issues will be addressed. This course is intended to provide nondesigners with fundamental visual literacy. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 135
DIGITAL IMAGING AND VIDEO (3 CR)

Prerequisite: CDTP 135 Recommended: PHOT 121

This course provides an introduction to electronically mediated photography, including digital video. The course covers basic concepts of photographic communication and design. The course covers basic techniques of electronic photography, including operation of input devices, two-dimensional and time-based computer imaging and digital video production software programs and output devices. Recommended prior courses are Fundamentals of Photography and Introduction to Photoshop. 6 hrs. integrated lecture, lab/wk.

CIM 140
INTERACTIVE MEDIA ASSETS (4 CR)

Prerequisites: CDTP 135 and CDTP 145 and CWEB 105 and CWEB 130 Prerequisite or Corequisite: CIM 130

This course explores the creation, acquisition and management of assets for use in the development of interactive media. Assets to be covered include digital graphics, digital sound, digital video and computer-based animation. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 152
INTERACTIVE AUTHOR I:AUTHORWAR (4 CR)

Prerequisite: CIM 130 Prerequisite or corequisite: CIM 140

This course will focus on the icon-based scripting approach to interactive media authoring/programming. The course will introduce concepts about the way interactive media works and the development strategies used, which will orient students to the peculiarities of the CD-ROM and intranet delivery of computer-based training, interactive marketing and catalogs. Students will examine specifications for each project, carefully analyze individual applications and, as a class, establish a set of criteria that define what works, what doesn't work, and why. Upon completion of this course, the student should be able to produce an Authorware interactive media presentation, which includes text, graphics, sound, movies and animation. The student will have the skills needed to create both a linear presentation and an interactive presentation. Navigational strategies for CD-ROM and Internet will be discussed. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 154
INTERACTIVE AUTHOR I:DIRECTOR (4 CR)

Prerequisite: CIM 130 Prerequisite or corequisite: CIM 140

This course will provide a hands-on approach to authoring/programming. Upon completion of this course, the student should be able to produce a Director interactive media or Internet presentation, that includes text, graphics, sound, movies and animation. The student should have the skills needed to create both a linear presentation and an interactive presentation. Navigational strategies for CD-ROM and Internet will be discussed. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 156
INTERACT AUTHORING I: WEB (4 CR)

Prerequisite: CIM 130 Prerequisite or corequisite: CIM 140

This course will focus on the front-end aspects of Web design, HTML, authoring, graphics production and media development. The course will introduce concepts about the way the World Wide Web works, which will orient students to the peculiarities of the Web and introduce them to new technologies that are destined to have an important effect on the Web's future but are currently in various stages of development. Students will examine specifications for each project, carefully analyze individual sites and, as a class, establish a set of criteria that define what works, what doesn't and why. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 200
INTERACTIVE COMMUNICATION FORM (3 CR)

Prerequisites or corequisites: CIM 130 and CIM 140

This course will focus on concepts and forms of human communication historically, currently and in the future of our culture. Immediated and mediated forms of communication, such as lecture, telephony, television, print and computer interaction, will be explored. Particular attention will be given to how communication forms affect content. Emphasis will be on the integration of communication forms as demonstrated by interactive media applications. 3 hrs. lecture/wk.

CIM 230
INTERACTIVE MEDIA DEVELOPMENT (4 CR)

Prerequisite: CIM 152 or CIM 154 or CIM 156 Prerequisite or Corequisite: CIM 200 Corequisite: CIM 250

The course will provide a conceptual as well as a hands-on exploration of the development process for interactive media. Information design, interaction design and presentation design will be equally emphasized. Students produce a series of projects starting with the use of text and graphics and building toward more complex projects employing animation and video. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 235
ADVANCED DIGITAL VIDEO (3 CR)

Prerequisite: CIM 135

This course provides advanced instruction in the production and applications of digital video. The course covers advanced concepts and techniques in video design and production, from the initial preproduction scripts and storyboards through actual shooting to nonlinear editing, mastering and output. The emphasis is on in-depth, advanced, practical experience in producing professional-level video products for a variety of applications, including education, corporate, documentary and entertainment. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 250
INTERFACE DESIGN (4 CR)

Prerequisite: CIM 152 or CIM 154 or CIM 156 Prerequisite or Corequisite: CIM 200 Corequisite: CIM 230

This course will specifically focus on the issues and complexity of interface design for interactive media applications. Students are provided an in-depth the use of the building blocks of interface design: backgrounds, windows and panels, buttons and controls, text, images, sound, video and animation. Through readings, critiques, exercises and discussions, students will explore what makes the interface of an interactive media application successful. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 252
INTERACTIVE AUTH II:AUTHORWARE (4 CR)

Prerequisite: CIM 152

This course will build upon the basic skills covered in the first Authorware course. Many of these topics relate to the use of functions, variables and UCDs in Authorware. Projects will include creating a user login system with individual user bookmarks, creating an Internet browser window within an Authorware application, creating an application that reads student records information from a text file and writes student records information to a text file. Students will learn to create intelligent authoring wizards, which can dynamically create and modify Authorware icons and logic. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 254
INTERACT AUTHORING II:DIRECTOR (4 CR)

Prerequisite: CIM 154

At completion of this course, the student should be able to create Director applications using Director's scripting language and the Internet capabilities of Macromedia Director. The primary emphasis of the course is hands-on

experience with the Lingo, Behaviors, Shockwave and scripts of Director. During the course, students will be involved in learning advanced Lingo. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 270
INTERACTIVE MEDIA PROJECT (4 CR)

Prerequisites or corequisites: CIM 200 and CIM 230 and CIM 250

This project-oriented course will require students to actively participate in a group interactive media project, which will require each student to analyze the problem; write a project proposal; design, produce and gather assets for the project; prototype and create a project; and test and test and evaluate the final project. 3 hrs. lecture, 2 hrs. lab/wk.

CIM 271
CAREER PREPARATION (2 CR)

Prerequisite: CIM 230 and CIM 250 Prerequisite or Corequisite: CIM 270

This course will provide interactive media majors instruction in the presentation of his or her work in a digital portfolio format of professional quality. A printed and written resume will be produced. Self-promotion, networking, job searches and interview skills will also be covered. 2 hrs. lecture/wk.

CIM 272
INTERACTIVE MEDIA INTERNSHIP (1 CR)

Prerequisite: Facilitator approval required

Students will work in an approved training situation under instructional supervision. The internship is designed to give the student the opportunity to use the skills learned in the advanced computer interactive vocational certificate program. Student interns will be required to complete a minimum of 180 hours of on-the-job training.

Interior Design (ITMD)

ITMD 121
INTERIOR DESIGN I (3 CR)

This course provides basic, introductory knowledge about interior design. Upon successful completion of this course, the student should understand the significance of interior design, complete projects using the elements and principles of design and color theory in interior spaces, use space planning skills to arrange furniture on a floor plan, and present the floor plan and its decorative scheme. This course is required in the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees; the interior products sales representative certificate; and the interior design retail sales/manufacturers representative certificate programs. 3 hrs./wk.

ITMD 122
INTERIOR DESIGN II (3 CR)

Prerequisites: ITMD 121 and DRAF 261

This is an advanced course focusing on residential design. Upon successful completion of this course, the student should be able to demonstrate an advanced level of furniture arrangement on a floor plan; develop color schemes that will solve specific assigned decorating problems; demonstrate the ability to coordinate fabrics, colors, textures, patterns and finishes in a complete floor plan for a residential unit; and produce floor plans enhanced by color and shadow. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs. 3 hrs./wk.

ITMD 125
INTERIOR TEXTILES (3 CR)

This course is a comprehensive study of textiles used in interior design. Upon successful completion of this course, the student should be able to differentiate fibers and textiles according to their specific characteristics and to select fibers and interior textiles for specific applications. Specific course content includes properties and characteristics of natural and man-made fibers; construction methods; and various finishing processes, such as weaving, knitting, felting, printing and dyeing. The course will concentrate on textiles designed for interior applications. This is a required course for the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees; the interior products sales representative certificate; and the interior design retail sales/manufacturers representative certificate. 2 hrs. lecture, 2 hrs. lab/wk

ITMD 127
ELEMENTS OF FLORAL DESIGN (1 CR)

This course provides in-depth knowledge and hands-on application of floral design. Upon successful completion of this course, the student should be able to use the principles of floral design, develop a proficiency in the techniques of line and mass arrangements, possess a greater appreciation for flowers and other plant material, apply the mechanics and design considerations involved in working with silk and dried materials, and design and create silk and dried floral arrangements. This is an elective course in the interior design, interior merchandising, interior entrepreneurship associate of applied science degrees and interior design retail sales/manufacturers representative certificates. 1.5 hrs. integrated lecture, lab/wk.

ITMD 132
INTERIOR PRODUCTS (3 CR)

This course provides in-depth knowledge about products used in interior spaces. Upon successful completion of this course, the student should be able to evaluate the quality of interior products; demonstrate the ability to use catalogs and other product information resources; identify manufacturing and/or construction techniques used in products; use correct terminology to describe the various types of interior products; and compare the design,use, durability and cost of products. This course is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees; the interior products sales representative certificate; and the interior design retail sales/manufacturers representative certificate programs. 3 hrs./wk.

ITMD 133
FURN-ORNA/ANTIQUITY-RENAISSANC (3 CR)

This course provides in-depth knowledge in the study of Western furniture and ornament. Upon successful completion of this course, the student should be able to analyze and compare the furniture, ornamentation, design motifs and textiles of historical periods from antiquity to the Renaissance. Additionally, the student should be able to define the religious, political and social influences on the ornamentation and furnishings of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each historical period and correctly use vocabulary related to each era. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs. 3hrs./wk.

ITMD 140
DRAPERIES/TREATMENTS/CONSTRUCT (1 CR)
Prerequisites: ITMD 121 and ITMD 125 Corequisite: ITMD 275

This course provides comprehensive knowledge about draperies and window treatments and their construction. Upon successful completion of this course, the student should demonstrate the use of correct vocabulary relating to drapery and window treatments, explain the equipment used in the drapery industry, distinguish appropriate textiles and hardware for specific window treatments, measure for window treatments, and describe and select the proper suspension system for specific window treatments. The student will measure, select and present the proper style, fabric and suspension system for a specific window

treatment. This is a required course in the interior design program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degrees. It is also an elective in the interior design retail sales/manufacturers representative certificates. 1 hr./wk.

ITMD 145
UPHOLSTERY CONSTRUCTION (1 CR)

Prerequisites: ITMD 121 and ITMD 125 Corequisite: ITMD 275

This course provides comprehensive knowledge about upholstery construction. Upon successful completion of this course, the student should be able to demonstrate the use of correct vocabulary relating to upholstery construction, explain the equipment used in the upholstery industry, identify appropriate textiles and materials for upholstery use, and describe the various suspension systems used in bench-constructed and mass-produced furniture. This is a required course in the interior design program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degrees. It is also an elective in the interior design retail sales/manufacturers representative certificate programs. 1 hr./wk.

ITMD 147
LIGHTING DESIGN AND PLANNING (1 CR)

Prerequisite: ITMD 121 or FASH 125

This course provides in-depth knowledge about lighting design and planning. Upon successful completion of this course, the student should be able to define and use vocabulary relating to lighting design and planning. The student should be able to recognize and explain lighting application and technology used in the lighting industry. Additionally, the student should be able to identify and describe proper fixtures and equipment for lighting applications and demonstrate skills in selecting proper lighting designs for specific applications. This course is a required course in the interior design and an elective in the interior merchandising and interior entrepreneurship associate of applied science degrees. Also an elective in the interior design retail sales/manufacturers representative certificate. 1 hr./wk.

ITMD 148
HIST ASIAN FURNITURE/DESIGN (2 CR)

This course provides in-depth knowledge in the study of Asian furniture and ornament. Upon successful completion of this course, the student will be able to analyze and compare furniture, ornamentation, design motifs and textiles of the Near East and Far East during historical periods from antiquity to modern times. The student should be able to identify the religious, political and social influences on the ornamentation and furnishings of each period. In addition, the student should be able to identify the craftsmanship and materials used in the furniture of each historical period and to demonstrate the use of correct vocabulary related to each era. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degree programs. 2 hrs./wk.

ITMD 150
ASIAN RUGS AND CARPETS (1 CR)

This course provides in-depth knowledge in the study of Asian carpets and rugs. Upon successful completion of this course, the students will be able to analyze and compare materials, ornamentation, design motifs and textiles of the Near East and Far East during historical periods from antiquity to modern times. The student should be able to identify the religious, political and social influences on the ornamentation and furnishings of each period. In addition, the student should be able to demonstrate the use of correct vocabulary. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degree programs. 1 hr/wk.

ITMD 175

ADVANCED FLORAL DESIGN (1 CR)

Prerequisite: ITMD 127

This course is a continuation of Elements of Floral Design and provides the student with a more comprehensive application of floral design for home interiors. Upon successful completion of this course, the student will be able to determine the appropriate floral design for an existing home, design a variety of florals for specific placement, work with other students on a specific project and learn how to buy and price interior floral designs. This is an elective course for the interior design, interior merchandising, and interior entreprenuership associate of applied science degree programs. 1 hr. lecture, 1.5 hrs. lab/wk.

ITMD 180
LEADERSHIP IN DESIGN (1 CR)

Upon successful completion of this course, the student should be able to identify leadership skills necessary to have successful involvement in the field of interior design and professional organizations. Topics include group communication methods, time management, team-building skills, and organizing and facilitating meetings. Students desiring leadership opportunities in the ASID or other organizations are encouraged to enroll. This course is an elective in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs. 1 hr. lecture/wk.

ITMD 223
CONTRACT DESIGN (3 CR)

Prerequisites: ITMD 122 and DRAF 264

This is an advanced course focusing on contract design. Upon successful completion of this course, the student will be able to define and use vocabulary related to contract design, identify and use proper architectural symbols common to contract floor plans and elevations, and explain the differences between residential and contract design. Additionally, the student should be able to demonstrate the skills necessary to convert, redesign and create contract design space; explain the concept of open office planning; and compare and analyze the costs and benefits of open planning versus closed planning. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degree programs. 1 hr. lecture, 3 hrs. lab/wk.

ITMD 231
FURN-ORNA/RENAISSANCE-20TH CEN (3 CR)

This course provides in-depth knowledge in the study of Western furniture and ornament. Upon successful completion of this course, the student should be able to analyze and compare furniture, ornamentation, design motifs and textiles of historical periods from the Renaissance to the 20th century. Additionally, the student should be able to define the social, religious and political influences on the ornamentation and furnishings of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each historical period and correctly use vocabulary related to each era. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees and an elective in the interior design retail sales/manufacturers representative certificate program. 3 hrs./wk.

ITMD 234
KITCHEN-BATH/PLANNING-DESIGN (3 CR)

Prerequisites: ITMD 122 and DRAF 264

This is a comprehensive course in kitchen and bath design and planning. Upon successful completion of this course, the student should be able to define and use proper vocabulary related to kitchen and bath design and construction, identify and use proper architectural symbols common to kitchen and bath plans and elevations, state the space relationships required for proper kitchen and bath usage, convert to metric measurements, and draw a kitchen and bath floor plan and elevation. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior

entrepreneurship associate of applied science degree programs. 2 hrs. lecture, 1 hr. lab/wk.

ITMD 239
CAPSTONE:PORTFOLIO/PRESENTATIO (2 CR)
Prerequisites: Approval of program facilitator

This course is designed as a capstone for the interior design program. It should be taken in conjunction with or after completion of the final interiors studio course or in the graduating semester. Upon successful completion of this course, the student should be able to select and rework portfolio materials for maximum visual potential and appeal. In addition, the student will prepare a resume, conduct a job search, and present written and oral presentations based on resource and product files from other classes. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs. 2 hrs. lecture/wk.

ITMD 250
20TH CENTURY DESIGNERS (1 CR)

This course provides in-depth knowledge in the study of the 20th-century designers. Upon successful completion of course, the student should be able to analyze and compare furniture, ornamentation, design motifs and textiles of various 20th-century designers. Recognition of periods and individual styles is stressed. The student will have an opportunity to study a specific designer in depth. This is an elective course in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship. 1 hr lecture /wk.

ITMD 273
SEMINAR:PRACTICES/PROCEDURES (2 CR)
Prerequisite: ITMD 121

Upon successful completion of this course, the student should be able to demonstrate the use of proper interior design industry terminology, appropriate business forms and contracts, define the types of business legal structure, and solve business organizational and ethical problems through use of case studies. This course is required in the associate of applied science degree in interior design, interior merchandising or interior entrepreneurship and is an elective in the interior design retail sales/manufactures representative certificate program. 2 hrs./wk.

ITMD 275
SEMINAR:BUDGET/ESTIMATING (2 CR)
Prerequisite: ITMD 121

Upon successful completion of this course, the student should be able to describe methods of pricing interior design/merchandising materials and services, measure accurately for materials, demonstrate the use of business math in interior design/merchandising applications, and compute cost in cases. This course is required in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship and in the interior design retail sales/manufacturers representative certificates. 2 hrs./wk.

ITMD 282
INTERIORS INTERNSHIP I (1 CR)
Prerequisite: ITMD 121

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practical experience in the interiors industry. A minimum of 15 hours each week on-the-job training is required. This course is required in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship and in the interior product sales and interior design retail

sales/manufacturers representative certificates.

ITMD 284
INTERIORS INTERNSHIP II (1 CR)
Prerequisite: ITMD 121

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practical experience in the interiors industry. A minimum of 15 hours each week on-the-job training is required. This course is required in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship and in the interior product sales and interior design retail sales/manufacturers representative certificates.

ITMD 295
FLD STUDY:DESIGN/MERCHANDISING (3 CR)
Prerequisite:ITMD 121 and approval of the program facilitator

This travel-for-credit course consists of visits to manufacturing plants, a market showroom and a merchandise mart in a major market city. This is an elective course for the interior design, interior merchandising and entrepreneurship associate of applied science degree programs.

ITMD 296
INTERIOR DESIGN: THE ORIENT (3 CR)

Upon successful completion of this course, the student should be able to recognize and identify Asian furniture pieces and accessories from different countries; define and use vocabulary common to the art periods; and compare and contrast furniture and accessory pieces observed in museums, temples, homes and antique stores. This course will include five 3-hour pre-departure seminars followed by a three-week field trip to Japan, Hong Kong and Thailand. This is an elective course for the interior design, interior merchandising, and interior entrepreneurship associate of applied science degree programs.

Interpreter Training (INTR)

INTR 120
ELEM AMERICAN SIGN LANGUAGE I (3 CR)

This course will focus on the development of beginning American Sign Language communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. 5 hrs. lecture lab/wk.

INTR 121
ELEM AMERICAN SIGN LANGUAGE II (3 CR)
Prerequisite: INTR 120 or FL 180

This course will focus on continued development of elementary American Sign Language skills beyond those taught in Elementary ASL I. Students will work on developing communication competencies, concentrating on comprehension and production skills. Information about the linguistic and cultural features will be included in the context of language learning experiences. 6 hrs. integrated lecture-lab/wk.

INTR 122
INTERMEDIATE AMER SIGN LANG I (3 CR)
Prerequisite: INTR 121 or FL 181

This course will focus on the development of intermediate American Sign Language communication skills. Emphasis will be on teaching in context comprehension skills and linguistic features of the language. 3 hrs./wk.

INTR 123
INTERMED AMER SIGN LANGUAGE II (3 CR)

Prerequisite: INTR 122 or FL 270

The study of intermediate American Sign Language will continue in this course. It is designed to further intermediate communication skills in American Sign Language. Information about the linguistic and cultural features will be included in the context of language learning experiences. 3 hrs. lecture/wk.

INTR 125
AMERICAN SIGN LANG I (ASL) (5 CR)

Prerequisite: Admission to the interpreter training program

This class will focus on the development of beginning communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. 1 hr. lecture, 9 hrs. lab/wk.

INTR 130
ORIENTATION TO INTERPRETING (3 CR)

Prerequisite: INTR 120 and FL 180 or admission to the interpreter training program

This course provides an introduction to interpreting as an occupation. Students will come to understand interpersonal skills, professional ethics, parameters of responsibilities, community resources and legal ramifications as they relate to the interpreter. 3 hrs./wk.

INTR 132
AMERICAN SIGN LANG II (ASL) (5 CR)

Prerequisite: INTR 121 or INTR 125 and admission to the Interpreter Training Program

This class will focus on the development of intermediate communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. 1 hr. lecture, 9 hrs. lab/ wk.

INTR 135
THEORY OF AMERICAN SIGN LANG (3 CR)

Prerequisite: INTR 121 or INTR 125 or FL 181 and admission to the Interpreter Training Program

The structural and grammatical principles of ASL are provided in this introduction to linguistic problems of equivalency in English and ASL. 3 hrs./wk.

INTR 140
AMERICAN SIGN LANGUAGE III (5 CR)

Prerequisite: INTR 123 or INTR 132 and admission to the Interpreter Training Program

This course is a continuation of ASL II. Students will continue to develop intermediate ASL skills. Emphasis will be on signing comprehension and production skills. Linguistic and cultural features will be presented in the context of language learning experience. 1 hr. lecture, 9 hrs. lab/wk.

INTR 142
FINGERSPELLING I (3 CR)

Prerequisites: INTR 121 and INTR 125 or FL 181

Students will work on developing beginning expressive and receptive finger spelling skills based on word recognition principles. 2 hrs. lecture, 3 hrs. lab/wk.

INTR 145

DEAF CULTURE (3 CR)

Prerequisite or Corequisite: INTR 120 or INTR 125

Students will compare middle-class American values, beliefs and institutions with those of the deaf community in the United States. 3 hrs./wk.

INTR 181
INTERPRETING PRACTICUM I (1 CR)

Prerequisite: INTR 130 and admission to the Interpreter Training Program

Students will observe skilled interpreters in various interpreting situations in a variety of settings during the semester. 2 hrs. lab, field work/wk.

INTR 225
PHYS/PSYCH ASPECTS/INTRPRETING (2 CR)

Corequisites: INTR 181 and INTR 250 and admission to the Interpreter Training Program

This course provides knowledge of stress management as applied to both the physical demands and mental conditions of sign language interpreting. The course also identifies and describes critical components of self-esteem development and maintenance. Additionally, the course provides knowledge of career development theory, career decision making and the job-search process. The course is intended for second-year interpreter training students. 2 hrs./wk.

INTR 230
AMERICAN SIGN LANGUAGE IV (4 CR)

Prerequisite: INTR 140 and admission to the Interpreter Training Program

This course is a continuation of ASL III, including culturally significant topics related to the deaf community, more complex ASL grammatical features and conversational skill development. ASL vocabulary development, comprehension and production skills will be emphasized. Students will be given opportunities to expand their vocabulary related to common experiences in both formal and informal setting. Students will then use what they learned about advanced ASL, in class activities, dialogues, short stories, general conversations and class discussions. 1 hr. lecture, 7 hrs. lab/wk.

INTR 242
FINGERSPELLING II (2 CR)

Prerequisite: INTR 142

This course focuses on continued development of expressive and receptive fingerspelling skills based on word and phrase recognition and expression. 1 hr. lecture, 2 hrs. lab/wk.

INTR 250
INTERPRETING I (6 CR)

Prerequisite: INTR 130 Corequisite: INTR 140 and admission to the Interpreter Training Program

In this introduction to interpreting principles, emphasis will be on English-to-ASL and ASL-to-English skills. Students will participate in sequential drills and apply these skills in class. 2 hrs. lecture, 8 hrs. lab/wk.

INTR 255
INTERPRETING II (6 CR)

Prerequisite: INTR 250 and admission to the Interpreter Training Program

This is an advanced course concentrating on continued development of English-to-ASL, ASL-to-English and transliteration skills. Students will have the opportunity to use these skills as they role-play employment situations. 2 hrs. lecture, 8 hrs. lab/wk.

Journalism/Media Communication (JOUR)

JOUR 120
MASS MEDIA AND SOCIETY (3 CR)

Via books, newspapers, magazines, recordings, movies, radio, television, new technologies and the related areas of advertising and public relations, each of us is exposed to and affected by the mass media on a daily basis. This course will increase student awareness of the various media and help them understand the influence of the media on their daily activities, beliefs, decisions and goals. As a result, the student will become a more astute critic of the messages delivered by the mass media. 3 hrs./wk.

JOUR 122
REPORTING FOR THE MEDIA (3 CR)

Reporting for the Media is structured for students interested in the basics of writing and reporting. Writing for print broadcast, and online media are included. Information gathering and story writing are conducted under strict deadlines to prepare students for a professional position. Basic newswriting and style principles will be gained by writing stories for JCCC student media, including the student newspaper, The Campus Ledger. 3 hrs./wk.

JOUR 125
FUNDAMENTALS OF ADVERTISING (3 CR)

Fundamentals of Advertising introduces the student to the contemporary advertising process. Research, planning, creativity, production, media placement and sales are discussed, along with individual mediums and their forms, functions and roles in society. Major emphasis is placed on the areas of advertising/marketing research, planning and creativity, including integrated marketing communications. 3 hrs./wk.

JOUR 127
INTRODUCTION TO BROADCASTING (3 CR)

This course serves as a general introduction to students interested in pursuing knowledge of or a career in radio and television broadcasting. The course includes a study of the industry's development, its form and function, job responsibilities, basic production techniques, audience measurement, FCC regulations and ethics. Class time will include discussion of current trends and issues in the field, with students developing an understanding of broadcast media. Productions in the college's audio booth and TV facilities offer an opportunity to experience the field of broadcasting. These experiences will allow students to evaluate broadcasting as a possible career choice. 3 hrs./wk.

JOUR 130
PRINCIPLES OF PUBLIC RELATIONS (3 CR)

This course is intended to provide the student with an overview of the history, principles and real-life functions of public relations. Public relations is a rapidly growing field. The ability to work with the public is essential in business, education, health care and numerous other fields. This course is designed to give students the background to develop their PR skills, both verbally and in writing. 3 hrs./wk.

JOUR 202
BROADCAST PERFORMANCE (3 CR)

Students will learn how to improve their speaking voices and body language as well as the techniques necessary to effectively communicate messages through basic announcing skills. Interviewing, radio and television news, and commercial announcing are some of the topics covered in this course, which will allow students to polish their skills through performances in the college's television studio and audio booth. 3 hrs./wk.

JOUR 222
ADVANCED REPORTING (3 CR)

Prerequisite: JOUR 122

This is an advanced news gathering and reporting course designed to sharpen the discernment, critical thinking and writing skills of student journalists. Specific English language rules and principles plus AP newswriting style will be emphasized in the production of incisive, well-defined news stories, features, profiles, editorials and personal columns. Professional writings in various media will be examined and critiqued, and class members will have the opportunity to participate in hands-on editing and layout. Students will gain additional experience by preparing for and participating in news conferences and events, as well as interacting with area media writers. 3 hrs./wk.

JOUR 225
PROMOTIONAL WRITING (3 CR)

Prerequisite: JOUR 125 or JOUR 130

Students will study the elements of layout and copywriting for promotional purposes, with emphasis on advertising, direct mail and public relations writing. 3 hrs./wk.

JOUR 227
BASIC TV PRODUCTION (3 CR)

Prerequisite: JOUR 127

This course provides students with the fundamentals of television production. The goal is to teach students basic video techniques. Topics covered include technology, lighting, camera operations, audio and editing. Students will gain hands-on experience in the college's Television Services studio. 3 hrs. lecture/wk.

JOUR 271
JOURNALISM INTERNSHIP (3 CR)

Prerequisite: By permission; completion of six credit hours in journalism/media communications at JCCC or another college with a minimum grade of C in those 6 hours.

A journalism/media internship allows students to gain work experience at an approved training center under staff supervision. Emphasis is on learning new skills related to a particular program or department at a media facility. Students may learn the application of writing techniques needed to produce and broadcast news, and produce advertising or public relations promotional copy. On-the-job training involves approximately 15-20 hrs./wk. by arrangement.

Leadership (LEAD)

LEAD 120
LEADERSHIP DEVELOPMENT SEMINAR (3 CR)

This seminar course is designed for individuals who are interested in exploring the concepts of leadership using discussion, film, exercises and works of classic literature. The course will lead to the development of a personal leadership philosophy. 3 hrs./wk.

Learning Communities (LCOM)

LCOM 125
COMP II/COLLEGE ALGEBRA (6 CR)

Prerequisite: ENGL 121 and MATH 116 with a grade of "C" or better or appropriate score on the math assessment test - Note: College Algebra not

available to students with a credit in MATH 173.

College Algebra focuses on the study of functions and their graphs, techniques of solving equations and the recognition and creation of patterns, and Composition II focuses on giving students practice in gathering, evaluating, and synthesizing information in writing. This Learning Community combines the objectives of College Algebra and Composition II, giving students the opportunity to connect language and mathematics. Students will work together to write about math concepts and patterns, and to become aware of their innate ability to learn mathematics and language.

LCOM 126
COMP II/US HISTORY TO 1877 (6 CR)

Prerequisite: ENGL 106 or appropriate placement score

This six-hour Learning Communities course (part online part on campus) will focus on U.S. History from the discovery/encounter experience to the end of Reconstruction, as well as on composition and research techniques. Students will read both primary historical documents and a history textbook, and they will write three essays with an expository aim (one of which will involve substantial research), and one essay with an evaluative aim. All assignments will focus on understanding and interpreting American history. Students will receive credit on their transcripts for HIST 140 and for ENGL 122.

LCOM 127
COMP II/US HISTORY SINCE 1877 (6 CR)

Prerequisite: ENGL 106 or appropriate test score

This six-hour Learning Communities course (part online and part on campus) will focus on U.S. History from the end of Reconstruction to the present, as well as on composition and research techniques. Students will read both primary historical documents and a history textbook, and they will write three essays with an expository aim (one of which will involve substantial research), and one essay with an evaluative aim. All assignments will focus on understanding and interpreting American history. Students will receive credit on their transcripts for HIST 141 and for ENGL 122.

LCOM 128
ART HIST/FURN-ORNA REN-MODERN (6 CR)

This course introduces students to the arts and ideas of western culture from the Renaissance to the present. The course will examine furniture, ornament, textiles, two and three dimensional art and architecture. Particular attention will be paid to the relationship between artistic elements and their various cultural and historical contexts. This course utilizes the collections of the Nelson-Atkins Museum of Art where the class meets on a weekly basis throughout the semester.

Learning Strategies (LS)

LS 174
LEARNING STRATEGIES FOR MATH (1 CR)

Corequisite: Concurrent enrollment in a math course

This course teaches thinking and study skills specifically geared toward the learning of math. Students practice these skills on their math textbooks and homework assignments as well as in their math class discussions and lectures. This course also addresses feelings and attitudes that may block math learning and offers strategies and techniques designed to overcome these feelings. 1 hr./wk.

LS 176
STRATEGIC LEARNING SYSTEM (1 CR)

Corequisite: Concurrent enrollment in a college lecture course

In this course, students will learn a series of strategies for processing information from textbooks and lectures and strategies for studying for and taking tests . As the strategies are introduced, students apply them to the content of courses in which they are concurrently enrolled. Upon successful completion of the course, students will have developed a system for learning that can be adapted for use in any learning situation. 1 hr./wk.

LS 178
MEMORY STRATEGIES (1 CR)

Corequisite: Concurrent enrollment in another college course

In this course, students learn a series of techniques to help them improve their retention and recall of information needed for success in college courses. These techniques provide a systematic approach to learning and remembering. Students immediately use the techniques to learn information from their other college courses. 1 hr./wk.

LS 186
EXAM STRATEGIES (1 CR)

Corequisite: Concurrent enrollment in at least one other college course in which exams are taken

This course offers students an opportunity to explore their own learning styles and to develop appropriate strategies for improving test performance through improved learning procedures. Emphasis will be on practical application of the learned strategies to courses in which the students are concurrently enrolled. 1 hr./wk.

LS 200
COLLEGE LEARNING METHODS (3 CR)

Corequisite: Concurrent enrollment in at least one academic college course

This course provides students with opportunities to develop skills and habits that will help them establish and maintain effective learning systems. Students first learn and practice the learning methods in class and then apply these methods to appropriate situations in their other college coursework. The methods, which are based on valid learning and thinking principles, will help students meet the higher-level demands of the subjects encountered in college courses. 3 hrs./wk.

Legal Studies (LAW)

LAW 121
INTRODUCTION TO LAW (3 CR)

Upon successful completion of this course, the student should be able to explain the major substantive and procedural aspects of law. This course provides an overview of the legal system and knowledge of specific legal topics, including torts, criminal law, contracts, family law, business law, real estate and probate. This course is a requirement for applying to the paralegal program and for completion of the legal nurse consultant program. 3 hrs. lecture/wk.

LAW 123
PARALEGAL PROFESSIONAL STUDIES (1 CR)

Upon successful completion of this course, the student should be able to explain the legal assistant profession. Topics will include paralegal licensing, certification, education, employment and professional ethics. The course is required for students seeking admission to the paralegal program. 1 hr. lecture/wk.

LAW 131
LEGAL RESEARCH (3 CR)

Prerequisite or corequisite: Legal nurse consultant students- LAW 225 and LAW 121 or BUS 122. Paralegal program students - admission to the program or

division administrator approval

This course will familiarize the student with library organization and the types of informational resources used for performing legal research. The student will become acquainted with the major characteristics of these resources and usage techniques and will learn a systematic method for researching legal issues. Numerous opportunities will be provided for skill development in the use of these resources. 3 hrs. lecture/wk.

LAW 132
CIVIL LITIGATION (3 CR)

Prerequisite: Admission to the paralegal program or division administrator approval. Legal nurse consultant students - LAW 225 and LAW 121

This course will acquaint the student with the major characteristics of the civil litigation process. Students will become familiar with the various types of procedural rules regulating the civil litigation process and their application. Emphasis will be on the role of the legal assistant in a civil litigation practice and will include the drafting of pleadings. 3 hrs. lecture/wk.

LAW 140
ALTERNATIVE DISPUTE RESOLUTION (3 CR)

Prerequisites: Legal nurse consultant students - and LAW 132 paralegal program students

This course examines the various methods used by our legal system for dispute resolution and the role of the legal assistant in those methods. Upon successful completion of this course, the students should be able to explore the nature of conflict and the principles of negotiation and review the traditional litigation system. The course will concentrate on the major alternatives to litigation, including mediation and arbitration. 3 hrs. lecture/wk.

LAW 142
TORTS (3 CR)

Prerequisites: Legal nurse consultant students - and Paralegal program students - LAW 132

Upon successful completion of this course, the student should be able to explain the major principles of tort law and personal injury litigation. The student should be able to discuss and compare the elements of negligence torts, intentional torts and strict liability torts, as well as the types of damages available and defenses to each of these torts. 3 hrs. lecture/wk.

LAW 148
CRIMINAL LITIGATION (3 CR)

Prerequisites: Legal nurse consultant students - and Paralegal program students - LAW 132

Upon successful completion of this course, the student should be able to explain the objectives, substantive principles and procedural rules of the criminal process. The student will be able to explain the role of the paralegal in criminal litigation practice and draft documents used in the criminal litigation process. 3 hrs. lecture/wk.

LAW 152
REAL ESTATE LAW (3 CR)

Prerequisite: Paralegal program students - Admission to the paralegal program or division administrator approval. Legal nurse consultant students - LAW 225 and LAW 121

Upon successful completion of this course, the student should be able to describe common types of real estate transactions and conveyances. The preparation of legal instruments, namely deeds, contracts, leases and mortgages, will be studied. 3 hrs. lecture/wk.

LAW 162
FAMILY LAW (3 CR)

Prerequisite: Paralegal program students - admission to paralegal program or division administrator approval. Legal nurse consultant students -- LAW 225 and LAW 121

Upon successful completion of this course, the student should be able to describe the substantive and procedural principles of family law, including issues related to adoption, divorce, custody, support and visitation. The student will also be able to draft pleadings including petition for divorce, petition for adoption, decrees, settlement agreements and motions for modification. 3 hrs. lecture/wk.

LAW 171
LAW OFFICE MANAGEMENT (3 CR)

Prerequisite: Paralegal program students -- admission to the paralegal program or division administrator approval. Legal nurse consultant students -- LAW 225 and LAW 121

This course will acquaint the student with the general principles of law office management and will emphasize the unique characteristics of organizing and managing the law office or legal department. Projects will provide students with opportunities for practical application of law office management concepts. 3 hrs. lecture/wk.

LAW 173
JUDICIAL ACADEMY (1 CR)

Prerequisite: Admission to the paralegal program. Legal nurse consultant students -- LAW 225 and LAW 121

Upon successful completion of this course, the students should possess an in-depth understanding of the trial courts of Kansas. In order to achieve this goal, students will learn the main components of the Johnson County District Court, including discussion of the court structure, judicial qualifications, jury service, the criminal justice system, the juvenile court system and family matters. 1 hr. lecture/wk.

LAW 205
LEGAL WRITING (3 CR)

Paralegal prerequisite: LAW 131 or division administrator approval

Upon successful completion of this course, the student should be able to research complex legal problems, communicate the results of this research and other law-related information clearly and effectively and analyze legal problems using the skills of logic and reasoning. 3 hrs. lecture/wk.

LAW 212
BUSINESS ORGANIZATIONS (3 CR)

Prerequisite: Paralegal program students -- admission to the paralegal program or division administrator approval. Legal nurse consultant students -- LAW 225 and LAW 121

Upon successful completion of this course, the student should be able to describe the various forms of business ownership, including corporations, partnerships and sole proprietorships. The emphasis in the course is on the role of the legal assistant in a business law practice and on the preparation of related documents. 3 hrs. lecture/wk.

LAW 220
COMPUTER-ASSIST LEGAL RESEARCH (2 CR)

Prerequisites: Legal nurse consultant students -- LAW 131. Paralegal program students -- LAW 131

Upon successful completion of this course, the student should be able to access general and legal resources on the Internet and conduct electronic legal research using online and CD-ROM databases.

LAW 223
COMPUTER APPLICA/LAW OFFICE (3 CR)

Prerequisites: Paralegal program students -- admission to the paralegal program and either CIS 124 or CPCA 128 or three hours of CPCA 108 and CPCA 110 and CPCA 114

Upon successful completion of this course, the student should be able to evaluate and use legal software to perform customary law office procedures including computer litigation support, drafting and editing of specific legal documents, document and file management, time-keeping and billing, docket control, and forms generation. 3 hrs. lecture/wk.

LAW 225
LEGAL NURSE CONSULT PROFESSION (1 CR)

Prerequisite: Admission to the legal nurse consultant program or division administrator approval

In this course, students will examine the functions of legal nurse consultants and available career opportunities, including relevant issues regarding employment and independent contracting. 1 hr. lecture/wk.

LAW 241
WILLS,TRUSTS/PROBATE ADM (3 CR)

Prerequisite: Paralegal program students -- admission to the paralegal program or division administrator approval. Legal nurse consultant students -- LAW 225 and LAW 121

Upon successful completion of this course, the student should be able to draft a will with testamentary powers. The use of trusts, probate procedures, techniques for fact gathering and mastery of estate tax principles are emphasized in this course. 3 hrs. lecture/wk.

LAW 245
ELDER LAW (3 CR)

Prerequisite: Paralegal program students -- admission to the paralegal program or division administrator approval. Legal nurse consultant students -- LAW 225 and LAW 121

Upon successful completion of this course, the student should be able to explain the legal aspects of aging. Topics include financial and estate planning, health care, personal planning and protection, taxation, housing and other legal matters affecting the elderly and people with special legal needs. 3 hrs. lecture/wk.

LAW 250
MEDICOLEGAL RESEARCH/WRITING (3 CR)

Prerequisites: Admission to the legal nurse consultant program and LAW 131

This course emphasizes the role of the legal nurse consultant in the preparation of, and contribution to, various documents used in the context of a medicolegal-related law practice. Topics include the use of medical and science-related information resources and the preparation of such documents as legal memoranda; legal-related correspondence; summaries of medical/science literature; summaries of health-care records; and summaries of health-care expenses and settlement brochures, particularly in the context of intentional torts, negligence, product liability, strict liability, and medical-malpractice litigation. 3 hrs. lecture/wk.

LAW 260
PERSONAL INJURY LAW (3 CR)

Prerequisites: Admission to the legal nurse consultant program and LAW 131

Upon successful completion of the course, the student should be able to explain and apply substantive and procedural principles of personal injury claims. The course will concentrate on the role of a legal nurse consultant in analyzing and applying legal theories and defenses relevant to intentional torts, negligence,

product liability, strict liability and medical malpractice. 3 hrs. lecture/wk.

LAW 266
EMPLOYMENT LAW (3 CR)

Prerequisite: Paralegal program students -- admission to the paralegal program or division administrator approval. Legal nurse consultant students -- LAW 121 and LAW 225

This course examines the relationship between employer and employee. Major federal and state employment laws will be examined, including Title VII of the Civil Rights Act of 1964, the Age Discrimination Employment Act and the Americans with Disabilities Act. 3 hrs. lecture/wk.

LAW 268
BANKRUPTCY (2 CR)

Prerequisite: Paralegal program students -- admission to the paralegal program or division administrator approval. Legal nurse consultant students -- LAW 121 and LAW 225

This course will familiarize the student with the purpose and application of the federal Bankruptcy Code. Topics will include Bankruptcy Court procedures and the preparation of bankruptcy forms and documents. Emphasis will be on the role of the legal assistant in a bankruptcy practice. 2 hrs. lecture/wk.

LAW 270
ADMINISTRATIVE LAW (3 CR)

Prerequisite: Admission to the legal nurse consultant program and LAW 225 and LAW 121 or admission to the paralegal program

Upon successful completion of the course, the student will be able to explain and apply substantive and procedural principles of administrative agencies. The course will concentrate on the basic principles of workers' compensation law, Social Security law; the Americans with Disabilities Act and the Occupational Safety Health Administration. 3 hrs. lecture/wk.

LAW 271
LEGAL ETHICS/INTERVIEW/INVESTI (3 CR)

Prerequisite: Legal nurse consultant students and Paralegal students - LAW 132 Corequisite: Legal nurse consultant students LAW 250 Paralegal students LAW 205

Upon successful completion of this course, the student should be able to explain ethical rules and standards governing the legal profession, interview clients and witnesses, and perform factual investigation pursuant to legal proceedings. The emphasis will be on recognition of ethical problems commonly encountered, as well as the development of interviewing and investigating skills. 3 hrs. lecture/wk.

LAW 275
PARALEGAL INTERNSHIP I (1 CR)

Prerequisite: Admission to the paralegal program or division administrator approval

Upon successful completion of this course, the student should be able to explain how a law office or legal- related office operates from practical on-the-job experience. The student must work 240 hours a semester in law-related activities. By arrangement.

LAW 276
PARALEGAL INTERNSHIP II (1 CR)

Prerequisite: Admission to the paralegal program or division administrator approval

Upon successful completion of this course, the student should be able to explain how a law office or legal- related office operates from practical on-the-job

experience. The student must work 240 hours a semester in law-related activities. By arrangement.

Library (LIBR)

LIBR 125
INTRO TO LIBRARY RESEARCH (1 CR)

This course provides an introduction to the methods and technologies of library research. Included will be a study of the various information resources available for research and techniques for retrieving information from both print and electronic sources. The resources of Billington Library will be featured, although the emphasis will be on building information retrieval skills that will be useful in many settings. 1 hr./wk.

Marketing Management (MKT)

MKT 121
RETAIL MANAGEMENT (3 CR)

Upon successful completion of this course, the student should be able to describe and analyze retail store organization and operation including customer markets, store location and design, human resource management, merchandise planning and control, and retail promotion. 3 hrs. lecture/wk.

MKT 133
SALESMANSHIP (3 CR)

Upon successful completion of this course, the student should be able to define and contrast the three main areas of selling -- direct, wholesale and retail -- and explain the selling process. In addition, the student should be able to define the steps of selling and identify their appropriate application. The student should also be able to demonstrate selling skills through role play and presentations. Students who have received credit for MKT 134 may not receive credit for MKT133. 3hrs. lecture/wk.

MKT 134
CREATIVE RETAIL SELLING (3 CR)

Upon successful completion of this course, the student should be able to describe the process of successful selling in the retail environment. In addition, the student should be able to define the steps of selling and identify appropriate application. The student should also be able to apply selling principles through role-play. Students who have received credit for MKT 133 may not receive credit for MKT 134. 3 hrs. lecture/wk.

MKT 140
TELESERVICE COMMUNICATION SKIL (3 CR)

Upon successful completion of this course, the student should be able to describe the process of successful communication in the teleservice field. In addition, the student should be able to define the principles of teleclient service and identify their appropriate application. The student should also be able to demonstrate effective telecommunication and client services skills through role-playing. Students who have received credit for MKT 133 or MKT 134 may not receive credit for MKT 140. 3 hrs. lecture/wk.

MKT 202
CONSUMER BEHAVIOR (3 CR)

Upon successful completion of this course, the student should be able to analyze the elements and influences that affect consumer behavior. In addition, the student should be able to apply the basic principles of consumer behavior and

insight to the application of consumer-research findings used in the professional practice of marketing. 3 hrs. lecture/wk.

MKT 221
SALES MANAGEMENT (3 CR)

Prerequisite: MKT 134 or MKT 133

Upon successful completion of this course, the student should be able to identify skills necessary to manage a sales force and develop a plan for recruitment selection, training, motivation and evaluation. In addition, the student should be able to describe and analyze techniques to forecast and plan sales and audit results. 3 hrs. lecture/wk.

MKT 234
SERVICES MARKETING (3 CR)

Corequisite: BUS 230

Upon successful completion of this course, the student should be able to describe the functioning of a services economy. In addition, students should be able to describe and define the nature and characteristics of services and the way services are required to be marketed because of their intangible core. Additionally, students should be able to describe service quality, the foundation of services marketing and the success factors in services marketing. 3 hrs. lecture/wk.

MKT 284
MARKETING/MGT INTERNSHIP I (1 CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hrs./wk. on-the-job training is required.

MKT 286
MARKETING/MGT INTERNSHIP II (1 CR)

Prerequisite: MKT 284

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hrs./wk. on-the-job training is required.

MKT 288
MARKETING/MGT INTERNSHIP III (1 CR)

Prerequisite: MKT 286

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hrs./wk. on-the-job training is required.

MKT 289
MARKETING/MGT INTERNSHIP IV (1 CR)

Prerequisite: MKT 288

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hrs./wk. on-the-job training is required.

MKT 290
CAPSTONE:MARKETING/MANAGEMENT (3 CR)

Prerequisites: BUS 141 and BUS 230 and MKT 284 and MKT 286 or permission of division administrator

Upon successful completion of this course, the student should be able to identify problems, develop and describe the situational analysis, formulate alternative solutions, and reach and explain a decision for each issue. In addition, the student should be able to apply the knowledge of marketing and management concepts and techniques in the analysis of cases and actual business situations. 3 hrs. lecture/wk.

Mathematics (MATH)

MATH 099
INTRO TO ALG/INTERMEDIATE ALG (6 CR)

Prerequisite: MATH 111 with a grade of "C" or better or an appropriate score on an assessment test.

This 16-week course is an integration of the content of both Introduction to Algebra and Intermediate Algebra and graded as if taken as two separate courses. You will earn 3 credit hours in Introduction to Algebra and 3 credit hours in Intermediate Algebra that will transfer as if they were being taught in the traditional format. Students will receive credit on their transcript for MATH 115 and MATH 116.

MATH 111
FUNDAMENTALS OF MATH (3 CR)

Prerequisite: Appropriate score on the math assessment test

Fundamentals of Mathematics is designed for the student who needs to improve or review basic math skills and concepts. This course includes computation using integers, fractions, decimals, proportions and percents along with an overview of percents, measurement, geometry, statistics and linear equations. Fundamentals of Math provides the mathematical foundation upon which subsequent studies in mathematics and other areas depend. 3 or 5 hrs. lecture / wk. This course does not fulfill degree requirements.

MATH 115
INTRODUCTION TO ALGEBRA (3 CR)

Prerequisite: MATH 111 with a minimum grade of "C" or appropriate score on the math assessment test

This is a beginning course in algebra, designed to help students acquire a solid foundation in the basic skills of algebra. Students will learn to simplify arithmetic and algebraic expressions, including exponential expressions, polynomials, rational expressions and radical expressions; solve equations and inequalities, including linear equations and quadratic equations; graph linear equations; and analyze linear equations. 3 or 5 hrs. lecture/wk. This course does not fulfill degree requirements.

MATH 116
INTERMEDIATE ALGEBRA (3 CR)

Prerequisite: MATH 115 with a minimum grade of "C" or appropriate score on the math assessment test

This course focuses on arithmetic and algebraic manipulation, equations and inequalities, graphs, and analysis of equations and graphs. Students will simplify arithmetic and algebraic expressions, including those containing rational expressions, rational exponents, radicals and complex numbers; solve equations and inequalities including linear, quadratic, quadratic in form, as well as those containing rational expressions, radicals or absolute value; graph linear inequalities and basic conics; and analyze functions and nonfunctions. 3 or 5 hrs.lecture/wk.

MATH 118
GEOMETRY (3 CR)

Prerequisite: MATH 115 with a minimum grade of "C" or appropriate score on the math assessment test

This course is an informal approach to geometry. Topics will include lines, polygons, area, volume, circles, similarity, congruence and coordinate geometry. 3 hrs. lecture/wk.

MATH 120
BUSINESS MATH (3 CR)

Prerequisite: MATH 111 with a minimum grade of "C" or appropriate score on the math assessment test

This is a course for the student who needs specific skills in mathematics to address business problems and business applications. Students will learn the mathematics involved in retailing, payroll, financial analysis, interest, and money management. Students will use a calculator and computer to solve a variety of applications. 3 hrs./wk.

MATH 122
MATHEMATICS IN OUR CULTURE (3 CR)

Prerequisite: MATH 111 with a minimum grade of "C" or appropriate score on the math assessment test

This is a course about the extent, power and history of many interesting areas of mathematics. Topics will include mathematical reasoning and recreation, calculator activities, computer literacy, mathematics in art and music, probability, statistics and topology. 3 hrs./wk.

MATH 133
TECHNICAL MATHEMATICS I (4 CR)

Prerequisite: MATH 111 with a minimum grade of "C" or appropriate score on the math assessment test

This course is the first of a two-semester sequence that will introduce the mathematical skills and concepts necessary in technical work. It will focus on the basics of algebra, geometry and trigonometry and their applications. Topics will include operations with polynomials, linear equations, systems of equations, right triangle trigonometry and basic statistical concepts. 4 hrs./wk.

MATH 134
TECHNICAL MATHEMATICS II (5 CR)

Prerequisite: MATH 133 or an equivalent course with a minimum grade of "C

This course is the second of a two-semester sequence on technical applications of algebra and trigonometry. Topics will include factoring, algebraic fractions, quadratic equations, exponents, radicals, an introduction to coordinate geometry, logarithmic and exponential functions, trigonometric graphs and identities. 5 hrs./wk.

MATH 150
DESCRIPTIVE STATS USING SPSS (3 CR)

Prerequisite: MATH 120 or higher or an equivalent course with a minimum grade of "C"

This is a beginning course in statistical analysis that makes extensive use of the computer software package SPSS. This course is intended for students who have an interest in data mining. This course covers the basics of using SPSS to analyze statistical data which include inputting data, manipulating data, constructing cross-tabulation tables and pivot tables, and constructing various types of charts. The statistical analyses in the course will include measures of central tendency, measures of dispersion, measures of correlation, and an introduction to multiple response variables. The course also includes the basic components of good survey design. Finally, the course covers techniques for

constructing simple statistical models for making predictions with existing data. 3 hrs./wk.

MATH 165
FINITE MATH (3 CR)

Prerequisite: MATH 116 with a grade of "C" or better or appropriate score on the math assessment test

This course will emphasize the beauty, scope, practical applications and relevance of mathematics. It is designed to involve the students with the concepts as well as quantitative skills. Topics include inductive and deductive reasoning, mathematical patterns, sets, introduction to trigonometry, Euclidean geometry, probability, statistics and matrices. The common themes throughout the course are innovation in computers, related mathematical and cultural history and reasoning ability. 3 hrs./wk.

MATH 171
COLLEGE ALGEBRA (3 CR)

Prerequisite: MATH 116 with a minimum grade of "C" or MATH 134 with a minimum grade of "C" or appropriate score on the math assessment test Note: Not available to students with credit in MATH 173

This course focuses on the study of functions and their graphs, techniques of solving equations and the recognition and creation of patterns. Students will analyze and graph functions, including constant, linear, absolute value, square root, polynomial, rational, exponential and logarthmic functions and non-functions; solve equations and inequalities, including polynomial equations, exponential equations, logarithmic equations, systems of linear equations and systems of linear inequalities; and analyze and create algebraic and numerical patterns. 3 or 5 hrs./wk.

MATH 172
TRIGONOMETRY (3 CR)

Prerequisite: MATH 171 with a minimum grade of "C" or appropriate score on the math assessment test Note: Not available to students with credit in MATH 173

This is a course in trigonometric functions and graphs. Emphasis will be on understanding function notation, definitions, algebraic relations, real-world applications, graphing in the real and complex plane, inverse functions, polar functions and vectors. Students who take Math 172 and Math 173 will receive at most five hours of credit toward graduation. 3 hrs./wk.

MATH 173
PRECALCULUS (5 CR)

Prerequisite: MATH 116 with a minimum grade of "C" or appropriate score on the math assessment test Note: Not available for credit for students with credit in MATH 171 and/or MATH 172

This course focuses on the study of functions and their graphs, trigonometry, techniques of solving equations and the recognition and creation of patterns. Students will analyze and graph functions, including constant, linear, absolute value, square root, polynomial, rational, exponential, logarithmic and trigonometric functions and nonfunctions; solve equations and inequalities, including polynomial equations, exponential equations, logarithmic equations, trigonometric equations, systems of linear and nonlinear equations and systems of linear and nonlinear inequalities; and analyze and create algebraic and numerical patterns. 5 hrs./wk. MATH 173 is an accelerated course recommended for students with a strong high school math background (three to four years) who plan to take calculus.

MATH 175
DISCRETE MATH (3 CR)

Prerequisite: MATH 171 or MATH 173 with a minimum grade of "C" or appropriate score on the math assessment test

This course is designed to present the beauty, scope, practical applications and

relevance of mathematics. It will focus on applications of general interest drawn primarily from the social and biological sciences and business. Topics will be placed in a historical context, and mathematical reasoning will be stressed. Many of the applications will be computer-oriented. 3 hrs./wk.

MATH 181
STATISTICS (3 CR)

Prerequisite: MATH 171 or MATH 173 or an equivalent course with a minimum grade of "C" or appropriate score on the math assessment test

This is a beginning course in statistical analysis, the skill of making sense of raw data - constructing graphical representations of data, developing models for making predictions, performing tests to determine significant change and finding intervals for population values. Students will learn the basics of descriptive statistics, probability, sampling, confidence intervals, distributions, hypothesis testing, regression and correlation. Computer applications will be incorporated into course topics. 3 hrs./wk.

MATH 210
MATH FOR ELEMENTARY TEACHERS I (3 CR)

Prerequisite: Minimum grade of C or higher in MATH 171 or MATH 173 or appropriate score on math assessment test

This is the first of a two-course sequence for prospective teachers of elementary and middle school mathematics. The focus of this course is an in depth investigation of the mathematical principles and concepts encountered in grades K-8. Topics include set theory, numeration systems, number sense, critical thinking, and problem solving strategies. The use of appropriate techniques and tools, such as calculators, computers and manipulatives, will be integrated throughout the course in order to enhance the depth of understanding. 3 hrs. lecture/wk.

MATH 225
MATH AS A DECISION MAKING TOOL (3 CR)

Prerequisite: MATH 171 or MATH 173 with a minimum grade of "C" or appropriate score on the math assessment test

The focus of this course is to develop the quantitative skills and reasoning ability necessary to help students read critically and make decisions in our technical information society. A project tying this course to the student's own interest is a course requirement. Major topics include collecting and describing data, inferential statistics and probability, geometric similarity, geometric growth, symmetry and patterns. 3 hrs. lecture/wk.

MATH 231
BUSINESS & APPLIED CALCULUS I (3 CR)

Prerequisite: MATH 171 or MATH 173 with a minimum grade of "C" or appropriate score on the math assessment test

This is the first course in calculus as it applies to business, psychology and the physical sciences. Concepts include measuring the slope of a curve, writing equations of tangent lines, finding maximum and minimum points, determining the rate of change of a function, and measuring the area under a curve. Algebraic skills and application problems are stressed. Specific calculus topics include finding limits, differentiation of algebraic, exponential and logarithmic functions, and integration of algebraic and exponential functions. Trigonometry (MATH 172) can be taken concurrently with MATH 231 for those students planning to enroll in MATH 232 in subsequent semesters. 3 hrs./wk.

MATH 232
BUSINESS & APPLIED CALCULUS II (3 CR)

Prerequisites: MATH 231 and either MATH 172 or MATH 173 or an equivalent course, with a minimum grade of "C"

This is the second course in a two-semester series on calculus that covers five

techniques of integration, differentiation and integration of trigonometric functions, differential equations, and functions of several variables as applied to business, statistics, biology and the social sciences. 3 hrs./wk.

MATH 237
CALCULUS FOR BIOLOGY/MEDICINE (5 CR)

Prerequisite: MATH 172 or MATH 173 or an equivalent course with a minimum grade of "C"

This course focuses on the study and mathematical modeling of biological systems. Through a host of biological and medical applications, the rudiments of calculus are developed. Concepts include measuring the slope of a curve, writing equations of tangent lines, maximizing and minimizing a function, determining the rate of change of a function, and measuring the area under a curve. Solution techniques, both analytic and numeric, for difference and differential equations are used. Modeling activities are heavily emphasized. Qualitative analysis of solutions of differential equations is incorporated in modeling activities. Application areas include mathematical physiology, pharmacology, cell biology and populations biology. 5 hrs. lecture/wk.

MATH 241
CALCULUS I (5 CR)

Prerequisite: MATH 172 or MATH 173 or an equivalent course with a minimum grade of "C"

This is the first of a three-semester sequence on calculus designed for engineering, physics and math majors. Rates of change, areas and volumes will be studied. To accomplish this, the students will study and apply limits and continuity. Differentiation and integration of algebraic, trigonometric and transcendental functions will also be a major focus of this course. 5 hrs./wk.

MATH 242
CALCULUS II (5 CR)

Prerequisite: MATH 237 or MATH 241 or an equivalent course with a minimum grade of "C"

This is the second course of a three-semester sequence on calculus. The emphasis will be an analytic, numerical and graphical approach to techniques of integration, infinite series and vectors in the plane including scientific applications. 5 hrs./wk.

MATH 243
CALCULUS III (5 CR)

Prerequisite: MATH 242 or an equivalent course with a minimum grade of "C"

This is the third course in a three-semester sequence on analytic geometry and calculus. Topics include vector-valued functions, functions of several variables, multiple integration, vector analysis and linear algebra. 5 hrs./wk.

MATH 244
DIFFERENTIAL EQUATIONS (3 CR)

Prerequisite: MATH 243 or an equivalent course with a minimum grade of "C"

This course will cover standard types of equations that involve rates of change. In particular, this is an introductory course in equations that involve ordinary derivatives. Both qualitative and quantitative approaches will be used. Standard types and methods will be covered, including Laplace transforms and numerical methods. 3 hrs./wk.

MATH 246
ELEMENTARY LINEAR ALGEBRA (3 CR)

Prerequisite: MATH 232 or MATH 242 or an equivalent course with a minimum grade of "C"

This sophomore-level introduction to linear algebra uses a matrix-oriented approach, with an emphasis on problem solving and applications. The course focus is on matrix arithmetic, systems of linear equations, properties of Euclidean n-space, eigenvalues and eigenvectors, orthogonality and vector spaces. The use of technology is a major feature of the course. 3 hrs. lecture/wk.

MATH 250
ADV ENGINEERING MATHEMATICS (5 CR)

Prerequisite: MATH 242 or an equivalent course with a minimum grade of "C"

The focus of the course will be the study and mathematical modeling of engineering systems, both mechanical and electrical. Solution techniques, both analytic and numeric, for a single ordinary differential equation and for systems of first-order ordinary differential equations are used. Also, Laplace transforms and their applications are used as they apply to engineering systems. Linear algebraic systems of equations and the concepts of vector spaces, basis, dimension and subspaces are encountered as well. 5 hrs. lecture/wk.

MATH 281
HONORS PROJECT IN MATH (2 CR)

A description is not available for this course.

MATH 285
STATISTICS FOR BUSINESS (4 CR)

Prerequisite: MATH 232 or MATH 242 or an equivalent course with a grade of "C" or better Note: Students transferring MATH 285 to the University of Kansas must have CIS 124 or CIS 134 as a co-requisite. or corequisite CIS 124 or CIS 134

This is a beginning course in calculus-based statistical analysis, the skill of making sense of raw data -- constructing graphical representations of data, developing models for making predictions, performing tests to determine significant change and finding intervals for population values. Students must have an understanding of calculus concepts in order to successfully complete this course. Students will learn the basics of descriptive statistics, probability, sampling, confidence intervals, hypothesis testing and linear regression. The course will stress the applications to business with emphasis on quality control. 4 hrs./wk.

Metal Fabrication and Welding (MFAB)

MFAB 121
INTRODUCTION TO WELDING (4 CR)

Upon successful completion of this course, the student should be able to perform oxy-fuel cutting (OFC), oxy-fuel welding (OFW) and brazing, shielded metal arc welding (SMAW) and gas metal arc welding (GMAW) equipment. The SMAW portion of the course will cover positions but will be limited to fillet welds. All welds will be tested according to industry standards. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 125
ADVANCED GAS AND ARC WELDING (4 CR)

Prerequisite: MFAB 121

This course is a continuation of Introduction to Welding. The course will cover more advanced projects in oxyacetylene welding, cutting, brazing, shielded metal arc welding (SMAW) and carbon arc cutting with air (CAC-A). The SMAW process will be used to weld v-groove butt joints in the flat, horizontal, vertical up and overhead positions, with root and face U-bend test being performed on the welds made in the vertical position. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 127
WELDING PROCESSES (2 CR)

Upon successful completion of this course, the student should be able to identify various welding processes used by industries. Standard shop and maintenance welding processes will be taught and demonstrated. Welds will be tested and inspected according to industry standards. This course can be used by an individual company to train or upgrade train employees and can be customized to fit individual needs. 1 hr. lecture, 1.5 hrs. lab/wk.

MFAB 130
GAS METAL ARC WELDING I (4 CR)

Upon successful completion of this course, the student should be able to identify the theory of gas metal arc welding (GMAW) and flux-cored arc welding (FCAW). The welding of mild steel plate will occur in all positions on both fillet and groove welds with the GMAW process. The FCAW process will be used to weld some fillet and groove welds on mild steel in selected weld positions. The Plasma Arc Cutting (PAC) metal cutting process will be used to conserve material use and plant preparation. A root and face guide U-bend test will be performed on vertical up GMAW weld test coupons The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 140
MAINTENANCE REPAIR WELDING (3 CR)
Prerequisites: MFAB 121 or MFAB 130

Upon successful completion of this course, the student should be able to perform oxyfuel cutting (OFC), shielded metal arc welding (SMAW), gas metal arc welding (GMAW) and plasma arc cutting (PAC). Basic blueprint and welding symbols will be introduced, and selected welds and assignments will be tested according to industry standards. The student will be required to provide ANSI Z-87.1 approved safety glasses and may be expected to provide other basic hand tools and/or equipment as required by employers. This course is designed for individuals who have welding experience or who are employed by a company that requires welding skills. This course can be customized for advanced training. 1 hr. lecture, 2 hrs. lab/wk.

MFAB 152
MANUFACTURING MATERIALS/PROCES (3 CR)

This is a beginning course in metal fabrication technology that is appropriate for the metal fabrication major and other interested students. Upon successful completion of this course, the student should be able to identify various manufacturing materials and processes currently used in industry. The capabilities and applications of machine tool, general fabrication, welding processes, robotics, cut-off equipment and other manufacturing processes and equipment will be studied. Lectures will be supplemented by demonstrations of various processes and equipment. Students are required to wear safety glasses during demonstrations. 3 hrs. lecture-demonstrations/wk.

MFAB 160
GAS TUNGSTEN ARC WELDING (4 CR)
Prerequisite: MFAB 121

This course will cover the basic theory of gas tungsten arc welding (GTAW). The student will weld on mild steel, stainless steel and aluminum in a variety of positions on both fillet and groove welds using the GTAW process, with guided U-bend test being performed on mild steel. Students will also use the plasma arc cutting system (PAC) on selected assignments. The students will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment. 1 hrs. lecture, 6 hrs. lab/wk.

MFAB 170
BASIC MACHINE TOOL PROCESSES (4 CR)

Upon successful completion of this course, the student should be able to practice the basic principles of machining as well as the setup and operation of machines. Lab will include the use of lathes, mills, drills, cut-off and other types of equipment. 2 hrs. lecture, 4 hrs. lab/wk.

MFAB 180
BLUEPRINT & SYMBOLS FOR WELDER (2 CR)

Upon successful completion of this course, the student should be able to identify basic welding positions and explain, list, sketch, draw, use or describe current American Welding Society (AWS) welding symbols and weld joint configurations. The student will be introduced to several methods of producing welding blue prints, object representatives, and specific meanings of selected lines, surface features, sectional views and basic math formulas used in the welding industry. The student will be able to identify the symbols used for fillet welds and groove welds made with and without backing. Topics such as pipe welding representations, pipe welding connections, pipe welding classifications, welder certification, metallurgical effects of heat on metals and the importance of weld quality will be studied. 4 hrs. lecture/wk.

MFAB 230
GAS METAL ARC WELDING II (4 CR)

Prerequisite: MFAB 130

Upon successful completion of this course, the student should be able to identify the theory of gas metal arc welding (GMAW) and flux-cored arc welding (FCAW). The student will weld with the GMAW and FCAW processes in the flat, horizontal, vertical up and overhead positions on both fillet and groove welds. The GMAW welds will be made on aluminum, and the FCAW welds will be on 1-inch mild steel with side bend test being made on the overhead and horizontal weldments. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 240
METALLURGY (2 CR)

Metallurgy is the study of the science and technology of metals. This course covers the extractive, mechanical and physical phases of metallurgy. Topics include the identification of metals, types and classification of metals, heat treatment procedures and common steel manufacturing processes. 2 hrs. lecture-demonstration/wk.

MFAB 271
METAL FABRICATION INTERNSHIP (3 CR)

Prerequisite: Approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hrs. lecture, 15 hrs. minimum on-the-job training/wk.

Music (MUS)

MUS 121
INTRO TO MUSIC LISTENING (3 CR)

This course is designed to enhance student music listening. Students will learn to identify changes in the elements of music through the different stylistic periods of classical music. Factual and historical information will be presented to broaden the student's cultural and music appreciation. Students will hear recorded examples of music from the Medieval, Renaissance, Baroque, Classical, Romantic and 20th-century eras, as well as popular American forms and music from non-Western cultures. 3 hrs./wk.

MUS 123
INTRO TO MUSIC FUNDAMENTALS (2 CR)

This course is designed to present the fundamentals of music theory to students who have no previous background or training in that subject. Students will receive detailed instruction in naming notes; scales and chords; building intervals; and correlating these skills to the keyboard. 2 hrs./wk.

MUS 125
INTRO TO JAZZ LISTENING (3 CR)

This is an entry-level course for the student with little or no prior knowledge of the American art form of jazz music. Through reading and listening, the student will learn the basic structure of the elements of music and how these are organized to create jazz. Topics to be covered will include rhythm, harmony, and form; Dixieland style; swing style; bop; and contemporary jazz. 3 hrs./wk.

MUS 126
INTRODUCTION TO WORLD MUSIC (3 CR)

This course provides students with an introduction to the musical heritage of the world. Through an interdisciplinary approach targeting the arts, humanities and social sciences, the course fosters skills necessary to gain a deeper appreciation of both familiar and unfamiliar musical traditions. The course will survey a representative cross section of the major musical traditions of the world, which may include Native American, Black American, sub-Saharan African, Eastern European/Bosnian, Indian, Indonesian, Japanese and Latin American/Brazilian traditions. Note: The course does not require the ability to read music. 3 hrs. lecture/wk.

MUS 131
SIGHT-SINGING/EAR TRAINING I (2 CR)

This course is an introduction to sight singing and ear training. Basic methods of reading music are presented and practiced. Students are also trained to recognize aurally and notate the basic elements of music: intervals , diatonic melodies, simple rhythms, chord qualities, and basic harmonic progressions. The content is designed to complement the Harmony I course, though it is not necessary they be taken in the same semester. 2 hrs./wk.

MUS 132
SIGHT-SINGING/EAR TRAINING II (2 CR)

Prerequisite: MUS 131

This course is a continuation of the class Sight-singing and Ear Training I. The content is designed to complement the Harmony II course though it is not necessary they be taken in the same semester. 2 hrs./wk.

MUS 133
SIGHT-SINGING/EAR TRAINING III (2 CR)

Prerequisite: MUS 132

This course is a continuation of the classes Sight-singing and Ear Training I and II. The content is designed to complement the Harmony III course, though it is not necessary they be taken in the same semester. 2 hrs./wk.

MUS 134
SIGHT-SINGING/EAR TRAINING IV (2 CR)

Prerequisite: MUS 133

This course is a continuation of the first three courses in sight-singing and ear training. Students are trained to produce and hear the most complex aspects of music theory in the common practice era (1650-1920). The content is designed to complement the Harmony IV course, though it is not necessary they be taken in the same semester. 2 hrs./wk.

MUS 141
MUSIC THEORY: HARMONY I (3 CR)

Prerequisite: MUS 121 or passing equivalency test

This course is a basic study of the harmonic system syted in Western music composed from 1650 to 1900 and still in use in areas of music composition. Students will learn the basic skills involved in writing and analyzing music of this nature as well as play simple chord progressions on the piano. 3 hrs./wk.

MUS 142
MUSIC THEORY: HARMONY II (3 CR)

Prerequisite: MUS 141 or passing equivalency test

Harmony II is a continuation of the study of the harmonic system used in music composed from 1650 to 1900 and still in use in certain areas of music composition. The course covers use of non-harmonic tones, supertonic and dominant sevenths, functions of the submediant and mediant triads, advanced melodic writing and secondary dominant chords. Student will learn to harmonize melodies at the keyboard and play simple chord progressions on the piano. Music of the period will be analyzed. Selected software programs will enhance student skills and understanding. 3 hrs./wk.

MUS 143
MUSIC THEORY: HARMONY III (3 CR)

Prerequisite: MUS 142 or passing equivalency test

This is a continuation of the study of the harmonic system used in all music composed from 1650 to 1900 and still in use in many areas of music composition today. Important topics include devices of modulation, binary and ternary, and 12 bar blues musical forms and application of part writing procedures to instrumental music. Particular attention will be paid to the nature and functions of diatonic seventh chords, secondary dominants, borrowed chords and Neopolitan chords. Students will work with keyboard harmony exercises of increasing difficulty. Selected software programs will enhance student skills and understanding. 3 hrs./wk.

MUS 144
MUSIC THEORY: HARMONY IV (3 CR)

Prerequisite: MUS 143 or passing equivalency test

Harmony IV is a continuation of the study of the harmonic practices of tonal music and introduction to twentieth century harmony. Topics include augmented sixth chords, enharmonic modulation, and advanced chromatic harmonies. An introduction to 20th Century harmonic organization includes extended tertian harmony, modal harmony, parallelism, pandiatonicism, atonality, serialism, and aleatory music. Students will work with keyboard harmony exercises of increasing difficulty. Selected software programs will enhance student skills and understanding. 3 hrs./wk.

MUS 151
MIXED VOCAL ENSEMBLE I (1 CR)

Prerequisite: Audition

Choral ensembles are open to participation by the student body. Choral experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved. 3 hrs./wk.

MUS 152
MIXED VOCAL ENSEMBLE II (1 CR)

Prerequisite: MUS 151 and placement audition

Choral ensembles are open to participation by the student body. Choral

experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved. 3 hrs./wk.

MUS 153
MIXED VOCAL ENSEMBLE III (1 CR)
Prerequisite: Placement audition and MUS 152

Choral ensembles are open to participation by the student body. Choral experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved. 3 hrs./wk.

MUS 154
MIXED VOCAL ENSEMBLE IV (1 CR)
Prerequisite: Placement audition and MUS 153

Choral ensembles are open to participation by the student body. Choral experience or skill is desired in some ensembles but not in others. The ensemble will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. The literature will be specific to the nature of the group and the skills of the students involved. 3 hrs./wk.

MUS 156
MIDI MUSIC COMPOSITION I (3 CR)
MIDI Music Composition I is designed to create a technical and conceptual foundation for further studies in electronic music. Students will learn and demonstrate basic compositional techniques, including form, melody, rhythm and harmony. Also, the student will demonstrate the ability to use computers and software to create and perform music. Emphasis will be on developing skills appropriate to the beginning student for the purpose of creative and technical expression. 2 hrs. lecture, 2 hrs. lab/wk.

MUS 157
MIDI MUSIC COMPOSITION II (3 CR)
Prerequisite: MUS 156

MIDI Music Composition II is designed to put into practical use and to build on skills acquired in MIDI Music Composition I. Students will demonstrate the ability to create, store and utilize new, original sonorities via the graphic editing process. The course emphasizes each student's portfolio, which is a comprehensive example of the student's work to be used either for personal, commercial or academic purposes. 2 hrs. lecture, 2 hrs. lab/wk.

MUS 161
CHAMBER CHOIR I (1 CR)
Prerequisite: Audition

This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. 3 hrs./wk.

MUS 162
CHAMBER CHOIR II (1 CR)
Prerequisite: MUS 161 and audition

This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. 3 hrs./wk.

MUS 163
CHAMBER CHOIR III (1 CR)

Prerequisite: MUS 162 and Audition

This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. 3 hrs./wk.

MUS 164
CHAMBER CHOIR IV (1 CR)

Prerequisite: MUS 163 and Audition

This auditioned choral ensemble is open to participation by the student body. Prior choral experience or a reasonable level of music reading and vocal technique is necessary. The choir will learn a varied body of choral materials from the choral traditions of both past and present, performing at student and community activities. 3 hrs./wk.

MUS 165
MUSIC COMPOSITION I (1 CR)

Prerequisite: MUS 141 or consent of instructor

This entry level course provides instruction in the craft of musical composition. Traditional compositional techniques and concepts will be studied through demonstration and practice. Students will learn correct notational procedures and compose melodies and short pieces for one or two live performers. 1 hr. lecture/wk.

MUS 166
MUSIC COMPOSITION II (1 CR)

Prerequisite: MUS 165

This is an intermediate-level course for students seeking instruction in the craft of musical composition. Traditional compositional techniques and concepts will be studied through demonstration and practice. Students will learn to use a computer to notate their compositions, will begin to work with tonal harmony, will write music for a trio and/or quartet, and will have a piece performed during a music department recital. 1 hr. lecture/wk.

MUS 167
MUSIC COMPOSITION III (1 CR)

Prerequisite: MUS 166

This class is an intermediate-level course for the student seeking instruction in the craft of musical composition. Traditional compositional techniques and concepts will be studied through demonstration and practice. Students will enhance their ability to use a computer to notate their compositions, will begin to work with nonfunctional tonal harmony, will write music for SATB choir or for vocal soloist, and will have a piece performed during a music department recital. 1 hr. lecture/wk.

MUS 168
MUSIC COMPOSITION IV (1 CR)

Prerequisite: MUS 167

This course is an advanced-level class for students seeking further instruction in

the craft of musical composition. Traditional compositional techniques and concepts will be studied through demonstration and practice. Students will refine their ability to use a computer to notate their compositions, will continue to work with nonfunctional tonal harmony, will write music for larger ensembles, will have a piece performed in a music department recital, and will compile a portfolio of their work. 1 hr. lecture/wk.

MUS 171
VOICE CLASS I (1 CR)

This course is designed to introduce the student to beginning vocal technique, vocal vocabulary, performance experience and solo vocal repertoire. 1 hr./wk.

MUS 172
VOICE CLASS II (1 CR)
Prerequisite: MUS 171

This course is designed to continue instruction in proper vocal technique, vocal vocabulary, performance experience and solo vocal repertoire.

MUS 173
VOICE CLASS III (1 CR)
Prerequisite: MUS 172

This course is designed to continue instruction in proper vocal technique, vocal vocabulary, performance experience and solo vocal repertoire.

MUS 174
VOICE CLASS IV (1 CR)
Prerequisite: MUS 173

This course is designed to continue instruction in proper vocal technique, vocal vocabulary, performance experience and solo vocal repertoire.

MUS 176
JAZZ BAND I (1 CR)
Prerequisite: Audition

This is an entry-level course in the jazz band performing format for the student with little or no experience in this course of study. The student will learn, through rehearsal and performance, the basic elements of music and how these are utilized in the jazz band. Topics will include simple rhythms, basic melodic construction and major scale construction. 3 hrs./wk.

MUS 177
JAZZ BAND II (1 CR)
Prerequisite: MUS 176 or audition with instructor

This is a beginning-level course for the student with at least one semester of prior jazz band experience. Through rehearsal and performance, the student will learn beginning elements of music as applied to the jazz band performing format. Topics covered will include syncopated rhythm, Dorian minor scales and blues form. 3 hrs./wk.

MUS 178
JAZZ BAND III (1 CR)
Prerequisite: MUS 177 or audition with instructor

This is an intermediate-level course for the student with at least two semesters of prior jazz band experience. Through rehearsal and performance, the intermediate levels of jazz band performance will be learned. Topics covered will include Latin style, Mixolydian scales and the 32-bar song form. 3 hrs./wk.

MUS 179
JAZZ BAND IV (1 CR)

Prerequisite: MUS 178 or audition with instructor

This is an advanced-level course for the student with at least three semesters of prior jazz band experience. Advanced elements of jazz music will be learned through rehearsal and performance. Topics covered will include Lydian scales and ensemble performance techniques. 3 hrs./wk.

MUS 187
JAZZ IMPROVISATION I (2 CR)

Prerequisite: Audition

This is an entry-level course for the student with little or no jazz improvisation experience. Through written work and performance on the instrument of choice, the student will learn the basic elements of jazz improvisation. Topics to be covered will include identification and performance of basic intervals, major scales, Dorian modes, Mixolydian modes, major seventh chords, minor seventh chords, dominant seventh chords and the basic blues form. 2 hrs./wk.

MUS 188
JAZZ IMPROVISATION II (2 CR)

Prerequisite: MUS 187 or audition with instructor

This is an advanced-level course for the student with at least one semester of jazz improvisation. Through performance on the chosen instrument and written studies, the student will learn advanced concepts of jazz improvisation. Topics to be covered include jazz performance style, construction of the improvised solo and 32-bar song form. 2 hrs./wk.

MUS 191
CONCERT BAND I (1 CR)

Prerequisite: Audition

This is an entry-level course in the concert band format for the student with little or no concert band experience. Students will learn the basic elements of music as related to the concert band through rehearsal and performance. Topics include counting and subdividing motifs into melodies; and differentiating between major and minor tonalities. 3 hrs./wk.

MUS 192
CONCERT BAND II (1 CR)

Prerequisite: MUS 191 or audtion with instructor

This is a beginning-level course in the concert band format for the student with at least one semester of prior concert band experience. Students will learn the beginning-level elements of music as related to the concert band through rehearsal and performance. Topics to be covered include odd meters, minor scales and homophonic texture. 3 hrs./wk.

MUS 193
CONCERT BAND III (1 CR)

Prerequisite: MUS 192 or audtion with instructor

This is an intermediate course for the student with at least two semesters of prior concert band experience. Through rehearsal and performance, the student will learn intermediate levels of the elements of music in the concert band format. Topics will include parade march style, concert march style and concert overture style. 3 hrs./wk.

MUS 194
CONCERT BAND IV (1 CR)

Prerequisite: MUS 193 or audtion with instructor

This is an advanced course for the student with at least three semesters of prior concert band performing experience. Through rehearsal and performance, the student will learn the advanced concepts of concert band performance. Topics will include polyphonic texture, concert suite style and medley style. 3 hrs./wk.

MUS 195
VOCAL JAZZ ENSEMBLE I (1 CR)
Prerequisite: Audition

This is an entry-level course in the vocal jazz performing format. Through rehearsal and public performance, the student will learn the basic elements of music as applied to vocal jazz. Topics will include 8th note swing, jazz syncopation and 32-bar song form. 3 hrs./wk.

MUS 196
VOCAL JAZZ ENSEMBLE II (1 CR)
Prerequisite: MUS 195 or audition with instructor

This is a beginning-level course in the vocal jazz performing format. Through rehearsal and public performance, the student will learn the basic elements of music as applied to vocal jazz. Topics will include Dorian minor scales, Mixolydian scales and 12-bar blues form. 3 hrs./wk.

MUS 197
VOCAL JAZZ ENSEMBLE III (1 CR)
Prerequisite: MUS 196 or audition with instructor

This is an intermediate-level course in the vocal jazz performing format. Through rehearsal and public performance, the student will learn the basic elements of music as applied to vocal jazz. Topics will include beginning improvisation, Latin rhythm and major scales. 3 hrs./wk.

MUS 198
VOCAL JAZZ ENSEMBLE IV (1 CR)
Prerequisite: MUS 197 or audition with instructor

This is an advanced-level course in the vocal jazz performing format. Through rehearsal and public performance, the student will learn the basic elements of music as applied to vocal jazz. Topics will include scat, improvisation in 32-bar song form, Lydian scales and ballad style. 3 hrs./wk.

MUS 201
CHAMBER ENSEMBLE I (1 CR)
Prerequisite: Audition

This is an entry-level course for the student with little or no experience in the chamber ensemble performing format. Through written work and performance on the chosen instrument, the student will learn the basic fundamentals of this performing medium. Topics to be covered will include tone quality, intervals and rhythmic patterns. 2 hrs./wk.

MUS 202
CHAMBER ENSEMBLE II (1 CR)
Prerequisite: MUS 201 or placement by instructor

This is a beginning-level course for the student with at least one semester of experience in the chamber ensemble performing format. Through written work and performance on the chosen instrument the student will learn the basic fundamental of this performing medium. Topics to be covered will include minor scales, chord construction and compound rhythms. 2 hrs./wk.

MUS 203
CHAMBER ENSEMBLE III (1 CR)

Prerequisite: MUS 202 or placement by instructor

This is an intermediate-level course for the student with at least two semesters of chamber ensemble experience. Through written work and performance on the chosen instrument, the student will learn intermediate-advanced concepts of chamber ensemble performance. Topics to be covered include sight reading, intonation and style. 2 hrs./wk.

MUS 204
CHAMBER ENSEMBLE IV (1 CR)

Prerequisite: MUS 203 or placement by instructor

This is an advanced-level course for the student with at least three semesters of prior ensemble experience. Through performance on the chosen instrument, the student will learn the advanced concepts of chamber ensemble performance. Topics to be covered will include balance and cooperative expression. 2 hrs./wk.

MUS 211
ORCHESTRA I (1 CR)

Prerequisite: Audition

This is an entry-level course in the orchestra format for the student with little or no orchestra experience. Students will learn the basic elements of music as related to the orchestra through rehearsal and performance. Topics include counting and subdividing duple, triple and quadruple rhythm; assembling melodic motifs into melodies; and differentiating between major and minor tonalities. Students will rehearse and perform with the Overland Park Civic Orchestra. 2 hrs. (1 evening)/wk.

MUS 212
ORCHESTRA II (1 CR)

Prerequisite: MUS 211 or audition with instructor

This is a beginning-level course in the orchestra format for the student with at least one semester of prior orchestra experience. Students will learn the beginning-level elements of music as related to the orchestra through rehearsal and performance. Topics to be covered include odd meters, minor scales and homophonic texture. 2 hrs. (1 evening)/wk.

MUS 213
ORCHESTRA III (1 CR)

Prerequisite: MUS 212 or audition with instructor

This is an intermediate course for the student with at least two semesters of prior orchestra experience. Through rehearsal and performance, the student will learn intermediate levels of the elements of music in the orchestra format. Topics will include parade march style, concert march style and concert overture style. (1 evening)/wk.

MUS 214
ORCHESTRA IV (1 CR)

Prerequisite: MUS 213 or audition with instructor

This is an advanced course for the student with at least three semesters of prior orchestra performing experience. Through rehearsal and performance, the student will learn advanced concepts in orchestral performance. Topics will include polyphonic texture, concert suite style and medley style. 2 hrs. (1 evening)/wk.

MUS 221
PIANO CLASS I (2 CR)

This course provides a basic knowledge of music and the essential techniques required to play the piano. Students will learn essential musical terminology, including musical notation and symbols, major and minor key signatures, and the

harmonization of melodies using tonic and dominant triads. Specific piano-related terminology will include finger exercises, basic keyboard repertoire using major and minor five-finger patterns, major and minor scales, major and minor triads in root position, ensemble playing of two to four parts, and the formation of good practice habits. Group Piano II should follow the successful completion of this course. Private piano lessons are encouraged for students who successfully complete both courses. 2 hrs./wk.

MUS 222
PIANO CLASS II (2 CR)
Prerequisite: MUS 221 or permission of the instructor

This is a beginning-level course that provides a basic knowledge of keyboard instruments. Students will learn and review musical terminology, musical notation and symbols, and specific piano-related terminology. Topics covered will include major and minor key signatures; exercises and repertoire using major and minor scales; exercises and repertoire using major, minor, diminished and augmented triads in root position and inversions; chord progressions; ensemble playing of two to four parts; and use of the damper pedal. This course is the continuation of MUS 221. Completion of this course should precede Applied Piano I. This course is for beginners able to progress at a fast pace, students with minimal previous experience or students who have completed MUS 221. 2 hrs./wk.

MUS 223
PIANO CLASS III (2 CR)
Prerequisite: MUS 222 or permission of the instructor

This is an intermediate course that provides a basic knowledge of keyboard instruments. Students will learn and review musical terminology, musical notation and symbols, and specific piano-related terminology. Topics covered will include major and minor key signatures; exercises and repertoire using major and minor scales and modes; exercises and repertoire using major, minor, diminished and augmented triads in root position and inversions; chord progressions; ensemble playing of two to four parts; and use of the damper pedal. This course is the continuation of MUS 222. Completion of this course should precede Applied Piano I. This course is designed for students who have completed one year of study or who have completed MUS 222. 2 hrs./wk.

MUS 224
PIANO CLASS IV (2 CR)
Prerequisite: MUS 223 or permission of the instructor

This is an advanced-level course for the student with at least three semesters of prior piano class instruction. Students will learn the advanced concepts of piano playing. Topics to be covered will include basic music notation, major and minor key signatures, tempo indications, major and minor arpeggios, finger patterns, practice method chord progressions, and the use of the damper pedal. 2 hrs./wk.

MUS 226
APPLIED GUITAR I (CLASS) (1 CR)

Students will be provided with a foundation in guitar technique upon which to base further study of the instrument. The course consists of an introduction to the use of the guitar as a solo, accompaniment and ensemble instrument. 1 hr./wk.

MUS 227
APPLIED GUITAR II (CLASS) (1 CR)
Prerequisite: MUS 226 or instructor permission

This continuation of MUS 226 builds a foundation in guitar technique upon which to base further study of the instrument. The course continues to teach techniques that enable students to use the guitar as a solo, accompaniment and ensemble instrument. 1 hr./wk.

MUS 228
APPLIED GUITAR III (CLASS) (1 CR)

Prerequisite: MUS 227 or instructor permission

This continuation of MUS 227 is designed to move students from the basic skill level to the intermediate skill level. The course continues to teach techniques that enable students to use the guitar as a solo, accompaniment and ensemble instrument. 1 hr./wk.

MUS 229
APPLIED GUITAR IV (CLASS) (1 CR)

Prerequisite: MUS 228 or instructor permission

This is a continuation of MUS 228 at an intermediate level of guitar playing skills. The course continues to teach techniques that enable students to use the guitar as a solo, accompaniment and ensemble instrument. 1 hr./wk.

MUS 231
APPLIED VOICE I (PRIVATE) (1 CR)

This course is designed to introduce the student to beginning vocal technique, vocal vocabulary, performance experience and solo vocal repertoire.

MUS 232
APPLIED VOICE II (PRIVATE) (1 CR)

Prerequisite: MUS 231

This course uses private lessons to continue instruction in beginning vocal technique, vocal vocabulary, performance experience and solo vocal repertoire.

MUS 233
APPLIED VOICE III (PRIVATE) (1 CR)

Prerequisite: MUS 232

This course uses private lessons to continue instruction in beginning intermediate vocal technique, vocal vocabulary, performance experience and solo vocal repertoire.

MUS 234
APPLIED VOICE IV (PRIVATE) (1 CR)

Prerequisite: MUS 233

This course uses private lessons to continue instruction in intermediate vocal technique, vocal vocabulary, performance experience and solo vocal repertoire.

MUS 236
APPLIED PIANO I (PRIVATE) (1 CR)

This is an entry-level course for the student with little or no prior piano training. This course provides a basic knowledge of keyboard instruments. Students will learn essential musical terminology, musical notation and symbols, and specific piano-related terminology. Topics covered will include major and minor key signatures; exercises and repertoire using major and minor five-finger patterns; and exercises and repertoire using major and minor scales.

MUS 237
APPLIED PIANO II (PRIVATE) (1 CR)

Prerequisite: MUS 236

This is a beginning-level course for the student with at least one semester of prior applied piano study. Students will learn the intermediate-level concepts of piano performance. Topics to be covered will include major scales and the natural and harmonic forms of the minor scales, rhythmic patterns and subdivisions of duple

and triple meter and the basic keyboard literature of the intermediate level.

MUS 238
APPLIED PIANO III (PRIVATE) (1 CR)
Prerequisite: MUS 237

This is an intermediate-level course for the student with at least two semesters of prior applied piano study. Students will learn the intermediate-level concepts of piano performance. Topics to be covered will include scale, the melodic form of the minor scale, rhythmic patterns and subdivisions of compound meter, and the basic keyboard literature of the intermediate level.

MUS 239
APPLIED PIANO IV (PRIVATE) (1 CR)
Prerequisite: MUS 238

This is an advanced-level course for the student with at least two semesters of prior applied piano study. Students will learn the intermediate level concepts of piano performance. Topics to be covered will include Dorian and Mixolydian modes, pentatonic scales and performance of a Chopin etude.

MUS 241
APPLIED GUITAR I (PRIVATE) (1 CR)

In this private study in basic guitar technique, emphasis will be upon playing position, posture, tone production and basic music reading skills. Students will begin with studies and short pieces.

MUS 242
APPLIED GUITAR II (PRIVATE) (1 CR)
Prerequisite: MUS 241 or instructor approval

This is a continuation of private study in basic guitar technique. Emphasis will be upon playing position, posture, tone production and basic music-reading skills. Students will begin with studies and short pieces.

MUS 243
APPLIED GUITAR III (PRIVATE) (1 CR)
Prerequisite: MUS 242 or instructor approval

In this private study in intermediate guitar technique, emphasis will be on playing position, posture, tone production and intermediate music reading skills. Students will progress toward playing literature requiring intermediate skill levels.

MUS 244
APPLIED GUITAR IV (PRIVATE) (1 CR)
Prerequisite: MUS 243 or instructor approval

In this continuation of private study in intermediate guitar technique, emphasis will be on playing position, posture, tone production and intermediate music reading skills. Students will progress toward playing literature requiring intermediate skill levels.

MUS 246
APPL CLASSICAL GUITAR I (PRIV) (1 CR)

Private study in basic classical guitar technique and repertoire. Emphasis will be upon classical left- and right-hand technique, playing position, posture, tone production and standard classical guitar literature. Students will begin with studies and short pieces.

MUS 247

APPL CLASSICAL GUITAR II(PRIV) (1 CR)

Prerequisite: MUS 246 or instructor approval

This continuation of private study in basic classical guitar technique and repertoire will emphasize classical left- and right hand-technique, playing position, posture, tone production and standard classical guitar literature. Students will continue with studies and short pieces, then progress toward longer pieces with the intent of performing these in a recital situation.

MUS 248
APPL CLASSICAL GUITAR III(PRIV (1 CR)

Prerequisite: MUS 247 or instructor approval

In this private study in intermediate classical guitar technique and repertoire, emphasis will be on classical left- and right-hand technique, playing position, posture, tone production and standard classical guitar literature. Students will progress toward playing and performing more advanced pieces and guitar studies.

MUS 249
APPL CLASSICAL GUITAR IV(PRIV) (1 CR)

Prerequisite: MUS 248 or instructor approval

This continuation of private study in intermediate classical guitar technique and repertoire will emphasize classical left- and right-hand technique, playing position, posture, tone production and standard classical guitar literature. Students will progress toward playing and performing more advanced pieces and guitar studies.

MUS 251
APPLIED BRASS I (PRIVATE) (1 CR)

This is an entry-level course for the student with little or no experience in performing on a brass instrument. Through written exercises and performance on the instrument of choice, the student will learn the basic concepts of brass performance. Topics to be covered include tone production, basic musical intervals and major scales.

MUS 252
APPLIED BRASS II (PRIVATE) (1 CR)

Prerequisite: MUS 251 or placement by instructor

This is a beginning-level course for the student with at least one semester of prior brass instrument study. Through written exercises and performance on the instrument of choice, the student will learn the beginning concepts of brass performance. Topics to be covered include embouchure development, minor scales and duple and triple rhythmic patterns.

MUS 253
APPLIED BRASS III (PRIVATE) (1 CR)

Prerequisite: MUS 252 or placement by instructor

This is an intermediate-level course for the student with at least two semesters of prior brass instrument study. Through written exercises and performance on the instrument of choice, the student will learn the intermediate concepts of brass performance. Topics to be covered include the chromatic scale, quadruple rhythmic patterns and chord construction.

MUS 254
APPLIED BRASS IV (PRIVATE) (1 CR)

Prerequisite: MUS 253 or placement by instructor

This is an advanced-level course for the student with at least three semesters of prior brass instrument study. Through written exercises and performance on the

instrument of choice, the student will learn the advanced concepts of brass performance. Topics to be covered include the pentatonic scale, whole tone scale and melodic contours.

MUS 256
APPLIED PERCUSSION I (PRIVATE) (1 CR)

This is an entry-level course for the student with little or no training in percussion instruments. The student will learn the beginning concepts of percussion performance. Topics to be covered include basic duple and triple rhythm, snare drum rudiments and basic snare drum performance patterns.

MUS 257
APPLIED PERCUSSION II(PRIVATE) (1 CR)
Prerequisite: MUS 256 or placement by instructor

This is a beginning-level course for the student with at least one semester of prior instruction in percussion instruments. The student will learn beginning concepts of percussion performance. Topics to be covered include compound rhythm, snare drum rudiments and basic timpani skills.

MUS 258
APPL PERCUSSION III (PRIVATE) (1 CR)
Prerequisite: MUS 257 or placement by instructor

This is an intermediate-level course for the student with at least two semesters of prior instruction in percussion instruments. The student will learn beginning concepts of percussion performance. Topics to be covered include snare drum rudiments, basic mallet percussion skills and suspended cymbal skills.

MUS 259
APPL PERCUSSION IV (PRIVATE) (1 CR)
Prerequisite: MUS 258 or placement by instructor

This is an advanced-level course for the student with at least three semesters of prior instruction in percussion instruments. The student will learn advanced concepts of percussion performance. Topics to be covered include snare drum rudiments, crash cymbal techniques and drum set skills.

MUS 261
APPLIED WOODWIND I (PRIVATE) (1 CR)

This is an entry-level course for the student with little or no experience performing on a woodwind instrument. Through written exercises and performance on the instrument of choice, the student will learn the basic elements of woodwind performance. Topics to be covered include tone production, basic intervals and major scales.

MUS 262
APPLIED WOODWIND II (PRIVATE) (1 CR)
Prerequisite: MUS 261 or placement by instructor

This is a beginning-level course for the student with at least one semester of prior woodwind study. The student will learn beginning concepts of woodwind performance on the chosen instrument through written exercises and performance. Topics to be covered include embouchure development, minor scales and duple and triple meters.

MUS 263
APPLIED WOODWIND III (PRIVATE) (1 CR)
Prerequisite: MUS 262 or placement by instructor

This is an intermediate-level course for the student with at least two semesters of prior woodwind study. The student will learn the intermediate concepts of

woodwind performance through written exercises and performance. Topics to be covered include chromatic scale, quadruple rhythmic patterns and chord construction.

MUS 264
APPLIED WOODWIND IV (PRIVATE) (1 CR)

Prerequisite: MUS 263 or placement by instructor

This is an advanced-level course for the student with at least three semesters of prior woodwind study. Through written exercises and performance, the student will learn the advanced concepts of woodwind performance. Topics to be covered include pentatonic scale, whole tone scale and melodic contour.

Nursing (NURS)

NURS 121
FUNDAMENTALS OF NURSING (9 CR)

Prerequisites: Admission to the nursing program, MATH 116 or higher and Kansas CNA and CPR certification. CHEM 122 must be completed before enrolling in NURS 121. Prerequisite or corequisites: BIOL 144 and PSYC 130

This course, the first in a sequence of four nursing courses, introduces the student to care of individuals along the health care continuum. Emphasis is placed on prevention of illness, assessment of health status and maintenance of wellness in individuals of various ages. A critical-thinking approach is used as the course examines the concepts and principles of basic nursing care that provide a foundation for subsequent nursing practice. The clinical component of the course focuses on three elements: 1.prevention, 2.assessment of the healthy adult, and 3. the application of fundamental principles in caring for adults encountering acute alterations in wellness. 4 hrs. lecture, 16 hrs. clinic/wk.

NURS 122
NURSING ACROSS LIFESPAN - I (9 CR)

Prerequisites: NURS 121 and BIOL 144 and PSYC 130 Corequisites: PSYC 218 Communication elective

This course is the second in a sequence of four nursing courses. It provides an opportunity for students to explore diverse human responses to predictable events occurring throughout the life span. Students are helped to view clients within a family structure and on a wellness-illness continuum. Nursing role emphasis is on using communication and critical thinking to apply nursing process in preventing illness and promoting wellness. The clinical component of the course focuses on three elements: 1. prevention, 2. assessment of individuals within the family structure, and 3. application of knowledge in the care of a variety of clients across the life span. Students will apply concepts to individuals with acute and/or chronic alterations in the following areas: maternal/newborn, mental health, older adult, infant/child/adolescent. Clinical experiences will include a variety of settings. Each student will encounter all of these clinical areas over the course of two semesters (NURS 122 and NURS 221). 4 hrs. lecture, 16 hrs. clinic/wk.

NURS 123
LPN-RN TRANSITION COURSE (6 CR)

Prerequisites: Licensure as a vocational/practical nurse, admission with advanced standing to the nursing program, MATH 116 or higher and BIOL 140 and PSYC 130 and BIOL 225 and PSYC 218

This is an orientation to the philosophy of the associate degree nursing program for LPNs entering with advanced standing. Topics will include group process, relationships, the role of the associate's degree graduate, communication skills, and the nursing process. Individual assessment and assistance will be emphasized. 18 hrs./wk. for 6 wks. Summer.

NURS 221

NURS ACROSS LIFESPAN - II (9 CR)

Prerequisites: NURS 122 or NURS 123 and ENGL 121 Prerequisites or corequisites: SOC 122 or SOC 125 and BIOL 230

This course is the third in a sequence of four nursing courses. It provides an opportunity for students to explore human responses to stressors occurring throughout the life span. Students are asked to view clients within a family structure and on a continuum of adaptation to maladaptation that may result in acute or chronic illnesses. Nursing role emphasis is on organizational skills and use of critical thinking to apply the nursing process to diverse populations. The clinical component of the course focuses on three elements: 1. prevention, 2. assessment of individuals within the family structure, and 3. application of knowledge in the care of a variety of clients across the life span. Students will apply concepts to individual with acute and/or chronic alterations in the following areas: maternal/newborn, mental health, older adult, infant/child/adolescent. Clinical experiences will include a variety of settings.Each student will encounter all of these clinical areas over the course of two semesters (NURS 221 and NURS 222). 4 hrs. lecture, 16 hrs. clinic/wk.

NURS 222
MANAGING CLIENT CARE (9 CR)

Prerequisite: NURS 221

This course, the last in a sequence of four nursing courses, focuses primarily on adults experiencing common health alterations that require long-term adaptation. Using a critical-thinking approach, principles of client care management in various health care settings are studied. Ethical and legal issues are explored as they relate to nursing practice. The clinical component of the course focuses on three elements: 1. application of knowledge in the care of clients coping with long-term problems and 2. applying management principles in planning, implementing and evaluating care for a group of clients. 4.5 hrs. career theory, 1 hr. lab, 15.5 hr. clinic/wk.

Occupational Therapy Assistant (KOT)

KOT 100

INTROD TO OCCUPATIONAL THERAPY (2 CR)

Introduction to the history, philosophy, and practice of occupational therapy. Exploration of diversity and the role it plays in health care. 2 hrs. lecture/wk.

KOT 102

DOCUMENTATION GUIDELINES (2 CR)

Prerequisite: Formal admission into the occupational therapy assistant program.

Guidelines for documentation of occupational therapy services. 2 hrs. lecture/wk.

KOT 103

CLINICAL CONDITIONS (2 CR)

Prerequisite: Formal admission into the occupational therapy assistant program.

Etiology, clinical process and prognosis of common diseases and illnesses. Effect of disease or illness on an individual's performance and the impact this has on the person, family, and society. 2 hrs. lecture/wk.

KOT 104

DOCUMENTATION GUIDELINES (2 CR)

Prerequisite: Admission to the occupational therapy assistant program

This course covers guidelines for documentation of occupational therapy services. 2 hrs./wk.

KOT 105

GERONTOLOGY (3 CR)

Prerequisites: KOT 204 and American Institutions, each with a minimum grade of "C"

Course emphasiswill be on the concepts and process of aging and the role of occupational therapy with the elderly. 3 hrs./wk.

KOT 106

THERAPEUTIC INTERVENTIONS (4 CR)

Prerequisite: Formal admission into the occupational therapy assistant program

Use of techniques and low-tech devices commonly used in occupational therapy practice to assist individuals in improving their performance of daily life tasks. Introduction to architectural barriers. 2.5 hrs. lecture, 3 hrs. lab/wk.

KOT 112

BASIC EMERGENCY CARE (1 CR)

This course introduces current cardiopulmonary resuscitation skills, including adult, child and infant resuscitation according to American Heart Association standards. Medical and environmental emergencies are reviewed. 1 hr. lecture/wk.

KOT 116

LEVEL I FIELDWORK I (1 CR)

Prerequisite: Formal admission into the occupational therapy assistant program.

Introduction to the role, policies and procedures of fieldwork. Directed experience in a specified community setting. 0.5 hr. lecture, 1 hr. lab/ wk.

KOT 117

LEVEL I FIELDWORK II

Prerequisites: BIOL 109 or EMPT 102 and KOT 102, KOT 102, KOT 103, KOT 106 and KOT 116, each with a minimum grade of "C," and concurrent enrollment in KOT 101

This course is a directed experience in a specified community setting. 1 hr./wk.

KOT 118

ASSISTIVE TECHNOLOGY (2 CR)

Prerequisites: BIOL 144 and BIOL 145, EMTP 102, KOT 100 102, 103, 106, and 116, each with a miniumum grade of "C".

Hands-on introduction to high tech assistive technology and augmentative communication. 1 hr. lecture, 2 hrs. lab/wk.

KOT 120

PEDIATRICS (3 CR)

Prerequisite: EMPT 102, BIOL 144 and BIOL 145 and KOT 100 102, 103, 106, and 116, each with a minimum grade of "C".

Occupational therapy practice as it relates to individuals from birth to early adolescence. Study of normal growth and development. 3 hrs. lecture/wk.

KOT 121

LEVEL I FIELDWORK II

Prerequisite: BIOL 144 and BIOL 145, EMPT 102, and KOT 100, 102, 103, 106, and 116, each with a minimum grade of "C"; concurrent enrollment in KOT 120.

Directed experience in a specified community setting. 1 hr. clinicl/wk.

KOT 130

ANALYSIS/PHYSICAL PERFORMANCE (3 CR)

Prerequisites: EMPT 102, BIOL 144 and BIOL 145, KOT 100, 102, 103, 106, and 116, each with a miniumum grade of "C".

Analysis and evaluation of the components of physical performance and their relationship to functional activities. 2 hrs. lecture, 2 hrs. lab/wk.

KOT 154

APPLIED NEUROLOGY (2 CR)

Prerequisites: EMPT 102, BIOL 144 and BIOL 145, KOT 100, 102, 103, 106, and 116, each with a minimum grade of "C" or BIOL 225 and KPT 152.

Foundations of neuroscience necessary for practice as a rehabilitation professional. Anatomy and function of the nervous system. Correlation of clinical problems with pathology of the nervous system. 3 hrs. lecture/wk.

KOT 173

SPECIAL TOPICS (2 CR)

Prerequisites: Concurrent enrollment in physical therapy assistant or occupational therapy assistant programs or completion of an associate or advanced degree in physical therapy or occupational therapy.

A study of advanced topics relevant to the current practice of rehabilitation. Cross listed as KPT 173. 2 hrs. lecture/wk.

KOT 200

ACTIVITY ANAYLSIS/POSITIONING (2 CR)

Prerequisite: PSYC 130, SPD 121 and KOT 118, 120, 121, 130, and 154, each with a minimum grade of "C".

Analysis and teaching of activities for therapeutic intervention. Tool use and basic wheelchair management positioning. 1 hrs. lecture, 2 hrs. lab/wk.

KOT 201

MENTAL HEALTH (2.5 CR)

Prerequisites: KOT 101, 108, 111, 154, 204 and PSYC 130, each with a minimum grade of "C". Concurrent enrollment in KOT 212.

Occupational therapy assessment and treatment techniques in the mental health setting. 2 hrs. lecture, 1 hr. lab/wk.

KOT 202

PHYSICAL DYSFUNCTION (3 CR)

Prerequisites: American Institutions and KOT 200, each with a minimum grade of "C".

Occupational therapy assessment and treatment used with the physically and cognitively challenged population. 3 hrs. lecture/wk.

KOT 203

GERONTOLOGY (3 CR)

Prerequisites: American Institutions and KOT 200, each with a minimum grade of "C".

Concepts and processing of aging. The role of occupational therapy with the elderly.

KOT 208

SPLINTING (2 CR)

Prerequisite: American Institutions and KOT 200, each with a minimum grade of "C".

Principles of splinting and guidelines for fabrication. 1 hr. lecture, 2 hrs. lab/wk.

KOT 211

LEVEL I FIELDWORK III (2 CR)

Prerequisites: American Institutions with a minimum grade of "C" and concurrent enrollment in KOT 201 and KOT 202

This course is a directed experience in specified community settings. 4 hrs. clinic/wk.

KOT 212

LEVEL I FIELDWORK III (2 CR)

Prequisite: American Institutions and KOT 200, each with a minimum grad of "C"; concurrent enrollment in KOT 201 and 202.

Directed experience in specified community settings. 4 hrs. clinical/wk.

KOT 217

FIELDWORK SEMINAR (3 CR)

Prerequisite: American Institutions and KOT 220, each with a minimum grade of "C".

Preparation for full-time clinical practice, the national certification process, state licensure, and future employment. 3 hrs. lecture/wk.

KOT 222

LEVEL II FIELDWORK (12 CR)

Prerequisite: KOT 201, 202, 203, 208, 212, and 217, each with a minimum grade of "C".

Directed clinical experience in different practice areas of occupational therapy. 40 hrs. field studies/wk.

Philosophy (PHIL)

PHIL 121
INTRODUCTION TO PHILOSOPHY (3 CR)

This course is a study of the basic questions of philosophical inquiry, such as the nature of being, the ways we acquire knowledge and man's moral, social, religious and political values. Emphasis is on the application of the study of traditional problems of philosophy to the study of contemporary society. 3 hrs./wk.

PHIL 124
LOGIC AND CRITICAL THINKING (3 CR)

This course is an inquiry into techniques of persuasion and the standards for interpretation and assessment that are the basis for critical thinking. Argumentative and non-argumentative forms of persuasion are examined, including propaganda, exaggeration, stereotyping, slanted news and common fallacies. In addition, the course offers standards for evidential warrants based on samples, probabilities and causal claims. Relations between categorical propositions and Venn diagrams are examined and, finally, the course suggests strategies for fresh attacks on conceptual problems. 3 hrs./wk.

PHIL 138
BUSINESS ETHICS (1 CR)

This course applies classical and contemporary theories of morality to problems, questions and dilemmas arising in business. Using the major concepts and principles of deontological, consequentialist and perfectionist theories, it examines and analyzes cases involving such areas as employer/employee relations, corporate responsibility, truth telling in business and workplace diversity. Emphasis is on the development of moral reasoning skills that allow for meaningful analysis and evaluation of moral situations. 1 hr./wk.

PHIL 143
ETHICS (3 CR)

This course provides a systematic and critical study of values related to human conduct. It focuses on both traditional standards of ethical conduct and qualities of personal character. What we hold to be right or wrong, the basis for believing so, and what we consider to be virtues or vices are examined with an eye to understanding our current ethical situation. 3 hrs./wk.

PHIL 154
HISTORY OF ANCIENT PHILOSOPHY (3 CR)

This course provides a thorough exploration of ancient Greek and Roman philosophical thought from the original efforts of the Pre-Socratics to understand

the fundamental operations of the natural world to concerns about the way a person might live successfully in nature and society. Also explored are the notable Athenians of the classical period, Protagoras, Socrates, Plato and Aristotle, and the later schools of thought such as cynicism, skepticism, hedonism and stoicism. In the process, it provides a comprehensive understanding of the philosophical foundations of the Western world view. 3 hrs./wk.

PHIL 161
ELEMENTARY SYMBOLIC LOGIC (3 CR)

This course is a beginning course in symbolic logic and should be of particular benefit to those students who will pursue more advanced studies in linguistics, philosophy of language, mathematics or computer science. Students will be introduced to modern analytical techniques of formal deductive logic. Students should gain the ability to use a formal language to translate English language arguments and the ability to demonstrate the validity or invalidity of symbolic arguments using the techniques of truth-table analysis and formal proof. Some attention will also be given to the historical development of symbolic logic. 3 hrs./wk.

PHIL 176
PHILOSOPHY OF RELIGION (3 CR)

This course is an inquiry into the nature of religion, religious thought and religious language. It addresses philosophical topics such as the nature of religious belief, the apparent need of some people for religion, the arguments offered as proof for and against the existence of God, apparent contradictions between scientific and religious teachings, special problems raised by religious language, and the changes religion and philosophy of religion have made to accommodate a modern world view. 3 hrs./wk.

PHIL 210
HISTORY OF MODERN PHILOSOPHY (3 CR)

Prerequisite: PHIL 121 or PHIL 143 or HIST 125 or HIST 126

This course takes a historical approach to the development of modern philosophy and covers the period from the Renaissance to the twentieth century. The course will cover the epistemological, metaphysical and relevant axiological issues of the major philosophers and philosophical movements of this period. The course will also examine the influence of modern philosophy on contemporary thought. 3 hrs. lecture/wk.

Photography (PHOT)

PHOT 121
FUNDAMENTALS OF PHOTOGRAPHY (3 CR)

This course provides an introduction to the tools, procedures, concepts and application of photographic imaging. Students will use cameras, light meters and darkroom equipment for film developing and printing to make images to meet the requirements of a series of assignments designed to develop specific skills, competencies and points of view and to stimulate the students' creative capacities for personal expression, communication and self-understanding. Students must provide their own camera with adjustable focus, shutter speeds and aperture. 6 hrs. lecture, lab/wk.

PHOT 122
ADVANCED PHOTOGRAPHY (3 CR)

Prerequisite: PHOT 121

This course provides an introduction to advanced techniques, tools, procedures and concepts of photographic imaging, with an emphasis on black-and-white photography as a fine art. Students will use Zone System tests and procedures to produce prints of maximum quality. Students will use advanced techniques, such as split-developers for contrast control, multiple-imaging and archival processing,

and print presentation. Several "alternative" printing processes will be discussed and demonstrated. This course also includes a basic introduction to medium format (2 1/4) and large format (4 x 5) camera equipment and technique. Students will apply the above to make images for a series of conceptually advanced, project/series-oriented assignments to stimulate the student's creative capacities for personal expression, communication and self-understanding. 6 hrs. lecture, lab/wk.

PHOT 123
STUDIO PHOTOGRAPHY (3 CR)

Prerequisite: PHOT 121

This course provides an introduction to advanced techniques, tools, procedures and concepts of studio and commercial photography. Students will use professional camera and studio equipment, including studio electronic flash and hand-held light/flash meters. This course also includes an introduction to professional medium format (2 1/4) and large format (4"x5") equipment and advanced camera techniques for total image control. Students will use studio lighting for various portraiture styles and for small-product, table-top photography. Applications of digital photography as they apply to studio photographic processes will be introduced. Students will apply the above to make images for a series of advanced studio assignments. 6 hrs. lecture, lab/wk.

PHOT 125
PHOTOGRAPHY FOR PUBLICATION (3 CR)

Prerequisite: PHOT 121

This course provides an introduction to the concepts and application of photographic imaging for media publication. Students will use cameras, computers, software, scanners and image-output devices to master the issues, concepts and constraints involved in creating images for a broad range of publication needs. They will prepare and format digitized image files for storage, transmission and print-based and Web-based reproduction. This course is designed to meet the photographic imaging needs of journalism students. 6 hrs. lecture, lab/wk.

PHOT 127
COLOR PHOTOGRAPHY (3 CR)

Prerequisite: PHOT 121

This course provides an introduction to the materials, techniques, tools, processes and theories of color photography. Students will use various color film emulsions, chemicals, filters for color-balance corrections, enlargers with integral color-heads with dial filtration, a pro-lab quality processor, color printing papers, and quality controls and manipulations to produce professional-quality color enlargements and transparencies. Students will use the above to make color images to meet the requirements of a series of assignments designed to develop specific skills, competencies and points of view and to stimulate the students' creative capacities. 6 hrs. lecture, lab/wk.

PHOT 128
DIGITAL PHOTOGRAPHY (3 CR)

This course is an introduction to the concepts, tools and technology of digital imaging for photographers. Students will develop competence in the use of digital photographic equipment, software, storage devices and printers to produce digital photographic images satisfying the requirements a series of assignments designed to develop specific skills and competencies. Students will "capture," manipulate, correct, transmit, store and output images. They will use digital technology to produce images for commercial and/or artistic applications. Ethics and cultural implications of the technology will be discussed. 6 hrs. lecture, lab/wk.

PHOT 140
HISTORY OF PHOTOGRAPHY (3 CR)

This course provides an introduction to the history of photography. Students will

examine the aesthetic and technological evolution of photography as an art form, as a visual tool for and influence upon other artistic disciplines, and as a statement of perceived reality. The course will examine the elements that distinguish various aesthetic movements, the styles of major periods and the influences of individual photographers. Attention will be paid to the relationship between photographic imagery and various cultural and historical contexts. Recommended prior course is PHOT 121. 3 hrs. lecture/wk.

Physical Ed, Health & Rec (HPER)

HPER 100
BASKETBALL (BEGINNING) (1 CR)
Students will have an opportunity to learn fundamental basketball skills through demonstration and discussion of strategies for team play. Emphasis is on individual participation. 2 hrs./wk.

HPER 101
BASKETBALL (INTERMEDIATE) (1 CR)
Prerequisite: HPER 100

Students will have an opportunity to learn intermediate basketball skills through demonstration and discussion of strategies for team play. This course will advance the skills of the student who successfully completed the beginning basketball course. Emphasis is on individual participation and competition team play. 2 hrs./wk

HPER 103
TOUCH/FLAG FOOTBALL (1 CR)
The fundamentals of touch and flag recreational football will be introduced as well as strategies necessary for team play. 2 hrs./wk.

HPER 105
BOWLING (BEGINNING) (1 CR)
The student will have the opportunity to learn and practice the fundamentals of bowling. The student will be introduced to the history of the game, rules, equipment and lane specifications, scoring, handicap calculations, and operation of automatic scoring equipment. 2 hrs./wk.

HPER 107
BOWLING (INTERMEDIATE) (1 CR)
Prerequisite: HPER 105

Students will demonstrate advanced fundamentals of bowling. The student will acquire advanced knowledge of the history of the game, rules, equipment and lane specifications. Intermediate to advanced bowling competition will be explored. 2 hrs./wk.

HPER 110
RACQUETBALL (BEGINNING) (1 CR)
A brief history of rules and terminology of racquetball will be followed by instruction and actual practice and application of the fundamentals. 2 hrs./wk.

HPER 112
RACQUETBALL (INTERMEDIATE) (1 CR)
Prerequisite: HPER 110

Students will review the rules and terminology of racquetball, as well as demonstrate the basic skills. The student will demonstrate skills and strategies in a competitive format and use the mental preparation and conditioning aspects of

the game of racquetball. The intermediate racquetball student will apply skills in a competitive format. 2 hrs./wk

HPER 115
SOCCER (1 CR)

The fundamentals of soccer will be introduced as well as strategies necessary for team play. 2 hrs./wk.

HPER 117
POWER VOLLEYBALL (BEGINNING) (1 CR)

The basic skills of volleyball taught in this class include the forearm pass, overhead set, serve, block and spike (attacking). Elementary offense and defense along with volleyball rules, scoring and officiating will be covered. 2 hrs./wk.

HPER 118
POWER VOLLEYBALL (INTERMEDIATE (1 CR)

Prerequisite: HPER 117

Students will have the opportunity to build upon the basic fundamentals of the Power Volleyball (Beginning) class. Intermediate skills, strategies, offensive and defensive systems and rules will be covered for six-player, four-player, three-player, and two-player volleyball. 2 hrs./wk.

HPER 130
RUNNING AWARENESS & EXERCISE (1 CR)

The course will introduce the student to aerobic fitness through the activity of running. The training principles for running and competitive racing will be covered, and the individual will complete a personal running and/or racing training program. 2 hrs./wk.

HPER 134
WEIGHT TRAINING (BEGINNING) (1 CR)

In this class, muscular strength and endurance will be developed through weight training activity. A workout program will be implemented for each student. The muscular system, basic terminology of weight training and weight training theory will be discussed. 2 hrs./wk.

HPER 135
WEIGHT TRAINING (INTERMEDIATE) (1 CR)

Prerequisite: HPER 134

In this class, muscular strength and endurance will be developed. A self-designed and directed resistance workout program will be implemented. The proper use of a training log and personal fitness evaluation techniques will be discussed. 2 hrs./wk.

HPER 137
TENNIS (BEGINNING) (1 CR)

Students will get individualized instruction in this course on the rules, terminology and history of tennis. The student will receive instruction on the basic strokes of tennis, as well as the strategies of singles and doubles play. 2 hrs./wk.

HPER 138
TENNIS (INTERMEDIATE) (1 CR)

Prerequisite: HPER 137

Students will review the rules. terminology and history o tennis. The student will receive instruction on the strokes of tennis, as well as the strategies of singles and doubles play in a competitive format. Emphasis will be on the mental and physical

conditioning of the game. 2 hrs./wk.

HPER 140
MODERN DANCE (BEGINNING) (1 CR)

This course emphasizes the movement between positions rather than the picture-perfect poses of ballet and other dance styles. Moving through space off of and onto the floor, breathing and moving improvisationally will be explored. 2 hrs./wk.

HPER 142
MODERN DANCE (INTERMEDIATE) (1 CR)

Prerequisite: HPER 140

A continuation of Modern Dance (Beginning), this course presents more difficult and longer movement combinations. Students further explore their creativity through elements of improvisations, choreography and performance while gaining greater muscular flexibility and strength. 2 hrs./wk.

HPER 150
AEROBICS (BEGINNING) (1 CR)

Motor skills, jogging and dance steps are combined in this exercise program to improve muscle tone and cardiovascular fitness. 2 hrs. wk.

HPER 152
AEROBICS (INTERMEDIATE) (1 CR)

Prerequisite:HPER 150

The motor skills, jogging and dance steps are performed at faster pace for a longer period of time than in Aerobics (Beginning). The course will introduce the student to the fitness benefits from increased duration and intensity of aerobic activities. 2 hrs./wk.

HPER 155
BALLET (BEGINNING) (1 CR)

This progressive ballet system is designed to produce muscular strength and flexibility and a working knowledge of anatomy, plus the aesthetic satisfaction of expressing yourself through a classical art form. Offered to students of all ages and experience, both beginners as well as those who have had some training. 2 hrs./wk.

HPER 157
BALLET (INTERMEDIATE) (1 CR)

Prerequisite: HPER 155

A continuation of Beginning Ballet, this progressive ballet system explores multilayered ballet movement in simple dance combinations. 2 hrs./wk.

HPER 158
JAZZ DANCE (BEGINNING) (1 CR)

An introduction to the concepts and motor skills involved with jazz dance. Basic body position will be introduce as well as basic terminology, jazz history, various jazz styles and the basic techniques involved, isolations, combinations, choreography and rhythmic influences. 2 hrs./wk.

HPER 159
JAZZ DANCE (INTERMEDIATE) (1 CR)

Prerequisite: HPER 158 or equivalent

A continuation of Beginning Jazz Dance, this course will require students to

assimilate and execute more difficult isolated dance moves as well as use the basic skills acquired in Beginning Jazz Dance to perform complex dance sequences to a variety of music. 2 hrs./wk.

HPER 163
BALLROOM DANCE (BEGINNING) (1 CR)

This is an introduction to ballroom dance with emphasis on basic patterns and fundamental steps of the waltz, fox trot, swing, polka and cha-cha. Common rules of dance courtesy and a brief overview of ballroom dance history will be included. Music or dance background is not necessary. 2 hrs./wk.

HPER 165
KARATE I (1 CR)

The student will receive instruction in the basic fundamentals of karate, including stances, blocks, kicks, strikes and self-defense techniques. 2 hrs./wk.

HPER 166
KARATE II (1 CR)

Prerequisite: HPER 165

The student will review the skills from the prerequisite course of Karate I. Students will demonstrate techniques that include the moving block, kicks and positions for karate. The course will also cover combination moves as well as the defensive technique.

HPER 167
KARATE III (1 CR)

Prerequisite: HPER 166

Students will have the opportunity to achieve higher levels of proficiency, routines, kumite (sport/free fighting) and self-defense. 2 hrs./wk.

HPER 168
KARATE IV (1 CR)

Prerequisite: HPER 167, beginning Japanese is a suggested prerequisite

Students in this course will have the opportunity to achieve the advanced level of karate in the following: taiso (exercise), kata (forms), kumite (sport/free fighting) and self-defense application. 2 hrs./wk.

HPER 172
TRACK AND FIELD (BEGINNING) (1 CR)

This course will introduce the student to the sport of track and field. Through activity and discussion the student will improve his or her motor ability to perform track and field events. 2 hrs./wk.

HPER 174
COACHING/OFFICIATING TRK/FIELD (2 CR)

Students will have the opportunity to learn the fundamentals of coaching and officiating track and field events. Upon successful completion of the course, students will be prepared for USATF Level 1 certification. 2 hrs./wk.

HPER 175
FENCING (1 CR)

Beginning foil fencing will provide the student with the fundamental rules and techniques of foil fencing. The student will utilize these skills in a fencing bout. The student will also be instructed in the rules and procedures of officiating foil fencing. 2 hrs./wk.

HPER 182
SWIMMING (BEGINNING) (1 CR)
Students in beginning swimming will learn basic swimming skills and safety information that are fundamental to safe swimming performance. 1 hr./wk.

HPER 183
SWIMMING (INTERMEDIATE) (1 CR)
Prerequisite: HPER: 182 or the equivalent
Students in intermediate swimming will learn more advanced swimming strokes, skills and safety information along with increasing personal fitness levels through continuous endurance swimming. 1 hr./wk.

HPER 185
ARCHERY (1 CR)
Students will receive individualized instruction in the basic skills of archery as a recreational sport lending itself as a lifetime leisure interest. Safety, fundamental care and usage of archery tackle, and beginning archery skills will be taught along with a survey of the history of archery. 2 hrs./wk.

HPER 190
GOLF (1 CR)
The beginning golfer will be given instruction in the rules of and basic swing fundamentals for the game of golf. Proper golf equipment, proper use of this equipment and golf etiquette will be reviewed. 2 hrs./wk.

HPER 192
WELLNESS FOR LIFE (1 CR)
This course introduces students to the theory and principles upon which the concepts of lifetime fitness and wellness are based. Students will examine the relationship that exists between wellness and lifestyle behaviors. Individual self-assessments will be used to establish current health and fitness levels. 1 hr./wk.

HPER 194
SPORTS CONDITIONING (BEGINNING (1 CR)
Students will have the opportunity to learn the fundamentals of general and sports specific conditioning. All aspects of physical and psychological development are incorporated in this class. Strength, power, speed, acceleration, muscular hypertrophy and endurance, cardiovascular endurance, motor skills and agility drills are taught and practiced. The class will include general physical preparation sport fitness, plyometrics, agility drills and sport-related specific conditioning. The students will learn about the principle of year-round conditioning, including conditioning appropriate to the off-season, preparatory period, pre-competition period and competition period. 2 hrs./wk.

HPER 197
SPORTS CONDITIONING (INTERMED) (1 CR)
Prerequisite: HPER 194
Students will have the opportunity to build upon principles and practices of general and sports-specific conditioning learned in Beginning Sports Conditioning. All aspects of physical and psychological development are incorporated in this class. Strength, power, speed, acceleration, muscular hypertrophy and endurance, cardiovascular endurance, motor skills and agility drills are taught and practiced. The class will include general physical preparation, sport fitness and conditioning. Students will continue to learn about the principle of year-round conditioning, including conditioning appropriate to the off-season, preperatory period, pre-competition period and competition period. 2 hrs. lecture/wk.

HPER 200
FIRST AID/CPR (2 CR)

After completing this course, students should be able to perform the basic skills of first aid. The course will cover cause, prevention and first aid care of common emergencies. Certification may be earned in first aid and cardiopulmonary resuscitation. 2 hrs./wk.

HPER 202
PERSONAL COMMUNITY HEALTH (3 CR)

This course is designed to provide the student with the knowledge and understanding to make positive, healthy lifestyle choices. In addition, students will learn about issues within the community that affect their daily health both directly and indirectly. 3 hrs./wk.

HPER 204
CARE/PREVENTION OF ATHL INJURY (3 CR)

This introduction to athletic training techniques is for student athletic trainers and coaches and athletes at all levels. The course will cover prevention of sports injuries, rehabilitation and taping techniques, and proper nutrition. 3 hrs./wk.

HPER 205
INDIVIDUAL LIFETIME SPORTS (2 CR)

This course provides a basic knowledge of several individual lifetime sports including badminton, bowling, golf, racquetball and tennis. Students will learn fundamental skills for each sport as well as history, benefits, equipment, rules, etiquette, safety, scoring and strategy. 3 hrs./wk. Fall.

HPER 208
INTRO/EXERCISE PHYSIOLOGY (3 CR)

This introduction to exercise physiology will introduce the effects of exercise on the muscular system, the cardiovascular system and the metabolic system. The course will prepare the student in the design of and principles for an individual exercise program. 3 hrs./wk.

HPER 217
COACHING/OFFICIATNG BASKETBALL (2 CR)

This course introduces students to the theory and principles of coaching basketball and the rules and mechanics of officiating. Students will have the opportunity to learn how to organize, coach and plan daily practice sessions. 2 hrs./wk.

HPER 220
SPORTS OFFICIATING (3 CR)

The rules and practical application of officiating will be covered for the following sports: volleyball, football, basketball, baseball and softball. 3 hrs./wk.

HPER 224
OUTDOOR RECREATION (3 CR)

This course introduces the student to activities that create interaction between the individual and/or individuals and elements of the outdoor recreational setting. This outdoor recreation class will plan activity projects such as camping, hiking, nature observation, alpine skiing, Nordic skiing and biking. 3 hrs./wk. Or, may be taught online for 16 weeks.

HPER 240
LIFETIME FITNESS I (1 CR)

This course is designed to provide an effective exercise circuit system to help the student develop overall muscle tone and cardiovascular conditioning. Handouts emphasizing the value of developing a total lifetime fitness attitude and optional lectures are available to enhance the student's knowledge of the benefits of a lifetime fitness program. This course requires an initial orientation/assessment. After the assessment, the class becomes an open-lab format by arrangement. 2 hrs./wk.

HPER 241
LIFETIME FITNESS II (1 CR)

Prerequisite: HPER 240

This course is a continuation and expansion of Lifetime Fitness I. 2 hrs./wk., open-lab format by arrangement.

HPER 242
LIFETIME FITNESS III (1 CR)

Prerequisite: HPER 241

This course is a continuation and expansion of Lifetime Fitness II. 2 hrs./wk., open-lab format by arrangement.

HPER 243
LIFETIME FITNESS IV (1 CR)

Prerequisite: HPER 242

This course is a continuation and expansion of Lifetime Fitness III. 2 hrs./wk., open-lab format by arrangement.

HPER 245
ELEMENTARY PHYSICAL EDUCATION (3 CR)

This course is designed to meet the needs of students who wish to teach in the area of elementary physical education and/or elementary education. This course will provide the students with knowledge and background in planning, classroom management techniques, teaching methodology, legal liability, evaluation, wellness, special students, sports, and games related to elementary physical education. The course will include observation and teaching. 3 hrs./wk. Spring

HPER 255
INTRO TO PHYSICAL EDUCATION (3 CR)

This course will introduce the student to the field of physical education and sport. This course will discuss the historical, biomechanical, physiological and psychological foundations of physical education and sport. It will examine the role of physical activity as a means to help individuals acquire the skills, fitness levels and knowledge that contribute to the arena of physical development and organized competition. It will also discuss the role physical education and sports play in our society. Each individual will develop a personal philosophy for physical education and sports. 3 hrs./wk. Spring.

Physical Science (PSCI)

PSCI 120
PHYSICAL SCIENCE (4 CR)

This course is an introduction to the fundamental concepts and principles of physics, chemistry, geology and astronomy. Topics include energy, electricity, magnetism, modern physics and chemical bonding. It is counted toward laboratory science requirements and is intended for nonscience majors. It includes presentation of material using audiovisual, computer and other multimedia aids. Three hours of class and three hours of work in a scheduled lab are required each week. 3 hrs. lecture, 3 hrs. lab/wk.

Physical Therapist Assistant (KPT)

KPT 102

BASIC EMERCY PATIENT CARE (1 CR)

This course introduces current cardiopulmonary resuscitation skills, including adult, child and infant resuscitation according to American Heart Association standards. Medical and environmental emergencies are reviewed. (Successful completion of the course qualifies the student for the Basic Life Support Course Certification.) 1 hr. lecture/wk.

KPT 151

INTRO TO PHYSICAL THERAPY (2 CR)

Introduction to the basic concepts of the function of a physical therapist and physical therapist assistant as members of the health team and the interaction of other health care disciplines in the care of the patient. Students learn medical terminology related to the specific discipline. 2 hrs. lecture/wk.

KPT 152

PHYSICAL THERAPY FUNDAMENTS I (4 CR)

Prerequisite: Formal acceptance into the program.

Theory and application of treatment modalities used in physical therapy. Therapeutic measures and patient handling skills used in the physical treatment of various injuries and diseases. Field trips to observe the clinic and its modalities. 2.5 hrs. lecture, 3 hrs. lab/wk.

KPT 153

KINESIOLOGY (4 CR)

Prerequisites: BIOL 144, BIOL 145, KPT 152 and KPT 160 each with a minimum grade of "C".

Anatomy and function of the musculoskeletal system. Analysis of various daily activities. Application of physical therapy assessment procedures related to clinical kinesiology. 2 hrs. lecture, 4 hrs. lab/wk.

KPT 154

APPLIED NEUROLOGY (2 CR)

Prerequisites: BIOL 144, BIOL 145, KPT 152, and KPT 160, each with a minimum grade of "C".

Foundations of neuroscience necessary for practice as a rehabilitation professional. Anatomy and function of the nervous system. Correlation of clinical problems with pathology of the nervous system. 2 hrs. lecture/wk.

KPT 155

REHABILITATION (4 CR)

Prerequisite: KPT 162 with a minimum grade of "C"

Introduction to the philosophy underlying rehabilitation theory and principles of treatment involved in normal and abnormal ambulation and mobility. Application of external supports and assistive devices, and teaching activities of daily living with attention to description, demonstration and practice. Field trips are required. 3 hrs. lecture, 2 hrs. lab/wk.

KPT 158

THERAPEUTIC EXERCISE (4 CR)

Prerequisite: KPT 162 with a minimum grade of "C"

Introduction to the theory and principles of application of therapeutic exercise, including patient instruction, manual techniques and equipment commonly used by the physical therapist assistant. Field trips to learn various specialized techniques. 2 hrs. lecture, 4 hrs. lab/wk.

KPT 159

ORTHOPEDIC PATHOLOGY (2 CR)

Prerequisite: BIOL 144, BIOL 145, KPT 152 and KPT 160, each with a minimum grade of "C".

Orthopedic pathologies commonly seen in physical therapy practice, diagnosis, signs and symptoms, physiological factors and treatment. 2 hrs. lecture/wk.

KPT 160

MEDICAL DISEASES (2 CR)

Prerequisites: BIOL 122, BIOL 140, AAC 130 and, KPT 151 each with a minimum grade of "C" and formal acceptance into the program.

Medical diseases commonly seen in physical therapy practice; diagnosis, signs and symptoms, physiologic factors and treatment. 2 hrs. lecture/wk.

KPT 161

PHYSICAL THERAPY FUNDAMENTS II (4 CR)

Prerequisites: BIOL 144, BIOL 145, KPT 152, and KPT 160 each with a minimum grade of "C".

Introduction to the theory and practical application of electrotherapy, patient documentation, patient care skills, and selected modalities, including indications and contraindications for use. 2.5 hrs. lecture, 3 hrs. lab/wk.

KPT 162

CLINICAL EXPERIENCE I (2 CR)

Prerequisites: KPT 153, KPT 154, KPT 159, KPT 161, and EMTP 102, each with a minimum grade of "C". Completion of pre-clinical examination with a score of 80 percent or better. Demonstrated competency in pre-clinical checkouts.

Supervised clinical experience in the practical application of techniques and procedures covered in all previous physical therapist assistant courses. Assisting physical therapists and physical therapists assistants in treament of patients in a variety of clinical settings. 5 hrs. clinical/wk.

KPT 164

PEDIATRICS AND GERONTOLOGY (2 CR)

Prerequisite: KPT 162 with a minimum grade of "C"

Specialized information related to the treatment of pediatric and older adult populations. 2 hrs. lecture/ wk.

KPT 170

CLINICAL EXPERIENCE II (2 CR)

Prerequisites: KPT 162 with a minimum grade of "C". Concurrent enrollment in KPT 155, KPT 158, KPT 164 and KPT 171

Supervised clinical experience in the practical application of techniques and procedures covered in all previous KPT courses. Assisting physical therapists and physical therapist assistants in the treatment of patients in a variety of clinical settings.

KPT 171

CLINICAL SEMINAR (2 CR)

Prerequisites: KPT 162 with a minimum grade of "C"

this course contains current professional and patient patient-care issues regarding the practice of physical therapy such as ethics, departmental organization, reimbursement, safety and research. 2 hrs. lecture/wk.

KPT 172

CLINICAL EXPERIENCE III (12 CR)

Prerequisites: Completion of all other required courses in the KPT program with a minimum grade of "C"

Practical application of principles learned in prior coursework. Experience rotation internships in selected hospitals and other clinical sites throughout the United States under the guidance of a physical therapist. 40 hrs. field studies/wk.

Physics (PHYS)

PHYS 125
TECHNICAL PHYSICS I (4 CR)

Prerequisite: MATH 133

In this introductory course, students will learn the fundamentals of classical physics. Included topics involve mathematical approaches to mechanics, wave motion and thermodynamics. This class is an applied study of the concepts of force, work, rate and resistance, and power in mechanical, fluidic, thermal and electrical energy systems. 3 hrs. lecture, 3 hrs. lab/wk.

PHYS 130
GENERAL PHYSICS I (5 CR)

Prerequisite: MATH 171

In this introductory course for pre-professional and general education, students will learn the fundamentals of selected areas of classical physics. Using the tools of algebra and trigonometry, the course develops the topics of mechanics, heat and thermodynamics, and concludes with waves. The two-semester PHYS 130/131 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course that meets the college's requirements for associate's degree programs and also meets transfer requirements of area colleges and universities. The course includes an integrated laboratory component the completionof which is a necessary part of the total intructional package. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 131
GENERAL PHYSICS II (5 CR)

Prerequisite: PHYS 130

In this introductory course for pre-professional and general education, students will learn the fundamentals of selected areas of classical physics. Using the tools of algebra and trigonometry, the course develops the topics of electricity and magnetism, light and optics and some elements of modern physics, such as relativity and quantum physics. The two-semester PHYS 130/131 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course that meets the college's requirements for associate's degree programs and also meets transfer requirements of area colleges and universities. The course includes an integrated laboratory component the completion of which is a necessary part of the total instructional package. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 133
APPLIED PHYSICS (5 CR)

Prerequisite: MATH 133, Technical Math I or higher

This is a one-semester, comprehensive physics course intended for students enrolled in the biotechnology certificate program or an associate of applied science degree program. The course will cover all areas of applied physics, including mechanics, heat, thermodynamics, waves, electricity, magnetism, light, optics and some elements of modern physics. Emphasis will be placed on concepts and applications to real-life problems. This course includes an integrated laboratory component the completion of which is a necessary party of the total instructional package. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 220
ENGINEERING PHYSICS I (5 CR)

Prerequisite or corequisite: Math 242

This is an introduction to physics for engineering and science students. Included will be mathematical approaches to the study of mechanics, wave motion and thermodynamics. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 221
ENGINEERING PHYSICS II (5 CR)
Prerequisites: PHYS 220 and MATH 242
This is an introduction to physics for engineering and science students. Included are mathematical approaches to the study of electricity, magnetism, sound, optics and modern physics. 4 hrs. lecture, 3 hrs. lab/wk.

Political Science (POLS)

POLS 122
POLITICAL SCIENCE (3 CR)
This course provides students the opportunity to explore the discipline of political science and to discover how political scientists study politics in the contemporary world. 3 hrs. lecture/wk.

POLS 124
AMERICAN NATIONAL GOVERNMENT (3 CR)
This course is an examination of the process by which national policy-making is made. Topics of study include American political culture, constitutional principles, basic political and economic concepts, intergovernmental relations, public opinion, political parties, interest groups, media, budget construction and decision-making institutions. 3 hrs./wk.

POLS 126
STATE AND LOCAL GOVERNMENT (3 CR)
This course examines the executive, legislative, judicial and service functions of state and local government in the United States in general and in Kansas in particular. The course includes guest lectures by elected officials, government personnel and community activists. 3 hrs./wk.

POLS 132
INTRO COMPARATIVE GOVERNMENT (3 CR)
This course compares the different political structures of many of the world's most important countries, including economic development, patterns of government and administration, party structures and policy formation. 3 hrs. wk.

POLS 135
INTERNATIONAL RELATIONS (3 CR)
This course analyzes the conflict and cooperation among nation-states. Students will study contemporary problems and how they relate to power, war, terrorism, diplomacy, international organizations and the future of the nation-state system. 3 hrs./wk.

Power Plant Technology (PPT)

PPT 130
HYDRAULICS,MECHANICS&PNEUMATIC (3 CR)
This introductory course is designed to give a general overview of hydraulic, mechanic and pneumatic principles. Upon successful completion of this course, the student will be able to describe the concepts involved in industrial maintenance of hydraulic, mechanical and pneumatic equipment and identify the major components and their functions. Topics will include hydraulics, pneumatics, rigging, ladders, scaffolds, lubrication, drive belts, vibrations, mechanical drives, alignments, bearings and electricity. This course is appropriate for power plant technology majors or other interested students. 3 hrs. lecture/wk.

PPT 140
GENERATING PLANT FUNDAMENTALS (3 CR)

This is an introductory course designed to give a general overview of power plant operations and functions. Upon successful completion of this course, the student will be able to describe the concepts involved in converting energy to electricity through a stream generation power plant and identify the major components and their functions. Topics will include fossil fuels, boilers, turbines, feedwater heaters, ash removal, condensate, power plant controls, and temperature and pressure relationships. This course is appropriate for power plant technology majors or other interested students. 3 hrs. lecture/wk.

PPT 230
INTRO/WATER CHEMISTRY/TREATMEN (3 CR)

This introductory course is designed to give a general overview of water chemistry and water treatment in power plants. Upon successful completion of this course, the student should be able to describe the concepts and solve the problems associated with water treatment in boiler operations. Topics will include hydrology, specific gravity of liquids, acids, bases, measurements, cooling towers, clarification, ion exchange and filtration. This course is appropriate for power plant technology majors and other interested students. 3 hrs. lecture/wk.

PPT 250
INTRO PP COMBUSTION/EXHAUST (3 CR)

Prerequisite: PPT 140

Upon successful completion of this course, the student should be able to describe the concepts involved in the combustion of fuel for energy generation. Topics will include fuel handling, combustion requirements, combustion control and by-products of combustion. This course is appropriate for power plant technology majors and other interested students, with the permission of the instructor. 3 hrs. lecture/wk.

PPT 251
INTRO POWER PLANT STEAM CYCLE (3 CR)

Prerequisite: PPT 140

Upon successful completion of this course, the student will be able to describe the steam water cycle in a steam generation plant. Topics will include boilers, turbines, feedwater heaters, condensers, cooling towers and auxiliary equipment. Enrollment in the course is limited to power plant technology majors or by permission of the instructor. 3 hrs. lecture/wk.

PPT 271
POWER PLANT INTERNSHIP (3 CR)

Prerequisite(s): PPT 140, Generating Plant Fundamentals; minimum of 15 credit hours of completed work; minimum of 6 credit hours of completed PPT course work; and approval of the assistant dean

The internship will provide advanced students with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employees, college staff and each student to provide a variety of actual job experience directly related to the student's career goals. This course is only available to students who have declared a power plant technology major. 20 hrs. on-the-job training/wk., or a minimum of 40 hrs./wk. on the job for summer semester

PPT 280
POWER PLANT OPER/PROC CONTROLS (3 CR)

Prerequisites: PPT 250 and PPT 251

Upon successful completion of this course, the student should be able to describe the concepts involved in operating a steam generation power plant and identify the major components and their functions. Topics will include cold start-up, warm start-up, shutdown, normal operations, load changes, safety checks, and power

plant controls. This course is designed to integrate and build on previous power plant technology course work. This course is appropriate for power plant technology majors and other interested students with the permission of the instructor. 3 hrs. lecture/wk.

Practical Nursing (AVPN)

AVPN 115
NURSING I

Prerequisites: CNA certification and admission to the practical nursing program and BIOL 144 and PSYC 130 and CPCA 105 and MATH 111

Using the nursing process, the student will promote adaptive responses in the client during health and illness. The student will develop a basic understanding of the role of the practical nurse in the health care system and demonstrate the fundamental skills essential to the nursing care of the client. The nursing process will be applied to the care of clients in long-term care, the medical office and the acute-care settings. Basic concepts of gerontology, professional vocational relationships, pharmacology, medical terminology and nutrition will be used in the care of the clients. 550 contact hrs.

AVPN 117
NURSING II

Prerequisite: AVPN 115

In Nursing II, the student will continue to explore the practical nurse's role in assisting clients to meet basic and more complex physiological needs using the nursing process in a variety of health care settings, including acute care, long-term care and mental health facilities. The student will apply concepts of leadership and change and demonstrate the roles of charge nurse, medication nurse, treatment nurse and patient-care nurse in long-term care. The student will promote adaptive responses in the child and family during the child's illness, pregnancy, labor and delivery, and post-partum and neonatal phases of reproductive processes. The student will explore the adaptive capacity of individuals with emotional stresses and diagnosed mental disorders across the life span. Basic concepts of gerontology, professional vocational relationships, pharmacology, medical terminology and nutrition will be applied in the care delivered. 550 contact hrs.

Psychology (PSYC)

PSYC 121
APPLIED PSYCHOLOGY (3 CR)

The course will focus on learning how to apply psychological principles in order to better understand one's own experience (cognitive, behavioral and emotional) and that of other people. This course is not a substitute for Introduction to Psychology and will not meet the prerequisite requirement for advanced psychology courses. 3 hrs./wk.

PSYC 130
INTRODUCTION TO PSYCHOLOGY (3 CR)

This basic introduction to psychology includes the study of biological aspects of behavior, the brain, consciousness, sensation and perception, motivation and emotion, stress, maturation and development, learning and memory, normal and abnormal personality, and social psychology. This course is the prerequisite for all advanced-level psychology courses. 3 hrs./wk.

PSYC 200
INDUS/ORGANIZATIONAL PSYCH (3 CR)

Prerequisite: PSYC 130

The course will examine human behavior and psychological principles in an industrial/personnel context. It will also focus on how organizational factors contribute to individual behavior and how individuals affect groups and organizational functioning. Topics include recruiting, selecting and training personnel; evaluating job performance, work motivation, job satisfaction and other attitudes; leadership; and organization and job design. 3 hrs/wk.

PSYC 205
HUMAN SEXUALITY (3 CR)
Prerequisite: PSYC 130

PSYC 205, Human Sexuality, is a balanced and thoughtful account of what is known about sexuality from various perspectives. A broad and representative survey of research is presented in a number of topical areas. Psychobiology, sexual development during childhood and adolescence, sexual interactions, love relationships and behavior, gender issues, sexual orientation, health issues and diseases, and sexual problems and solutions will be studied. Primary emphasis will be placed on the individual and the couple as a unit of analysis. Class discussions of issues relating to human sexuality will be encouraged. 3 hrs. lecture/wk.

PSYC 210
METHODOLOGY IN SOCIAL SCIENCES (3 CR)
Prerequisite: PSYC 130 or SOC 122 or ECON 230

This course deals with scientific research methods utlized in the social sciences, especially psychology, sociology, political science, and anthropology. The course examines a wide range of data collection methodologies including observation, questionnaire construction, and controlled experimentation. The course will be beneficial for analyzing and evaluating the quality of research findings reported in both the popular and academic press. It will also be useful to those who plan to engage in occupations requiring the use of research methodology. 3 hrs./wk.

PSYC 215
CHILD DEVELOPMENT (3 CR)
Prerequisite: PSYC 130

This course is a comprehensive account of human development from conception through adolescence. The course integrates genetic, biological, physical and anthropological influences with psychological processes and explores determinants of behavior from a genetic and environmental perspective. 3 hrs./wk.

PSYC 218
HUMAN DEVELOPMENT (3 CR)
Prerequisite: PSYC 130

This course is a comprehensive account of human psychological and physical development from conception through infancy, childhood, adolescence, adulthood and death. The course integrates genetic, biological, physiological and anthropological influences with the psychological process and explores determinants of development from both hereditary and environmental perspectives. 3 hrs./wk.

PSYC 220
SOCIAL PSYCHOLOGY (3 CR)
Prerequisite: PSYC 130

This course is designed to be an undergraduate-level introduction to the psychology of social behavior. It will provide a systematic attempt to understand how the "thought, feeling and behavior of individuals are influenced by the actual, imagined or implied presence of others." Consideration will be given to such concepts as methodology, attitude and attitude change, aggression, leadership, affiliation and obedience and will introduce conformity. The course is intended to introduce students to critical analysis, application and the mechanical and intellectual challenges of college work. 3 hrs./wk.

PSYC 225
EDUCATIONAL PSYCHOLOGY (3 CR)

Prerequisite: PSYC 130

This course addresses various issues that apply theories of psychology to the educational environment. Topics included in the study of educational psychology include research methodology, theories of human development, principles of learning, the psychology of motivation, theories of intelligence, testing and assessment techniques, and career development. A 20-hour observation in an educational setting is required. The class meets 3 hrs./wk.

PSYC 230
PERSONALITY THEORY (3 CR)

Prerequisite: PSYC 130

The general viewpoints of paradigms in psychology will be studied, with emphasis on each system's contribution to understanding human personality. The assumptions of each system will be critically analyzed using evidence from research and criticisms from philosophy. Usefulness of theories will be presented, and the systems will be compared and contrasted. General theories covered will include psychoanalysis, trait, biological, humanistic, behavioral/social and cognitive. 3 hrs./wk.

PSYC 250
HEALTH PSYCHOLOGY (3 CR)

Prerequisite: PSYC 130

This course covers content, methods and theory regarding the interplay between psychological and biological determinants of health and illness and examines how these factors relate to health status. The course focus is on the application of psychological methods, principles of maintenance of health, prevention of disease, treatment of illness, and rehabilitation and recovery from impaired health. It follows an interdisciplinary approach to content and instruction. 3 hrs. lecture/wk.

Radiologic Technology (KRAD)

KRAD 150

INTRO TO RADIOLOGIC TECHNOLOGY (1 CR)
Introduction to the profession of radiologic technology, including the duties of the radiologic technologist in the health care environment. 1 hr. lecture/wk.

KRAD 160

SURVEY/RADIOLOGIC TECHNOLOGY (6 CR)
Prerequisite: Completion of prerequisite courses including Introduction to Radiologic Technology and admission to the radiologic technology program.

Orientation to the program and clinical responsibilities. Topics related to basic patient interactions, body mechanics, patient transportation, radiographic terminology, radiographic examinations of the chest and abdomen, methods of radiation protection and types of radiographic equipment will be explored. 4.2 hrs. lecture, 6 hrs. clinical/wk.

KRAD 162

IMAGE PROCESSING (2 CR)
Prerequisite: KRAD 160,KRAD 172, KRAD 173,each with a minimum grade of "C".

Materials and factors relating to aquisition, processing, viewing, and storage of radiographs. 1.5 hrs. lecture, 1 hr. lab/wk.

KRAD 165

PATIENT CARE (2 CR)
Prerequisite: KRAD 160 with a minimum grade of "C".

This course will explore patient-health professional interactions, basic patient care and management, medico-legal issues, and medical ethics. 2 hrs. lecture/ wk.

KRAD 170

RADIOLOGY/BIOLOGY/PROTECTION (3 CR)

Prerequisite: KRAD 160 with concurrent enrollment in corresponding semester of clinical training.

The principles of radiation biology and techniques used to protect the patient and personnel from the effects of exposure to ionizing radiation. 3 hrs. lecture/wk.

KRAD 171

RADIOGRAPHIC EXPOSURES I (3 CR)

Prerequisite: Admission to the program

Factors which affect radiographic image formation and determine image quality. 2.5 hrs. lecture, 1 hr. lab/wk.

KRAD 172

RADIOGRAPHIC POSITIONING I (3 CR)

Prerequisite: KRAD 160 with a minimum grade of "C" and concurrent enrollment in KRAD 165 and 173.

Anatomy and positioning of the alimentary canal, urinary system, and upper and lower extremities. 2.5 hrs. lecture , 1 hr. lab/wk.

KRAD 173

CLINICAL TRAINING I (3 CR)

Prerequisite: KRAD 160 with a minimum grade of "C" and concurrent enrollment in KRAD 165 and KRAD 172.

Performance of patient examination in a clinical setting under the supervision of a radiologic technologist. 16 hrs. clinical/wk.

KRAD 174

RADIOGRAPHIC EXPOSURES II (3 CR)

Prerequisites: KRAD 160, KRAD 171, KRAD 172 and KRAD 173, each with a minimum grade of "C"

Quality control of radiographic images. Technic charts, calibration of equipment, standard exposure systems, and factors used for conversion of technics for variables in the exposure system. Special techniques used in producing radiographic images. 2.5 hrs. lecture, 1 hr. lab/wk.

KRAD 175

CLINICAL TRAINING II (4 CR)

Prerequisites: KRAD 165, KRAD 172 and KRAD 173, each with a minimum grade of "C", and concurrent enrollment in KRAD 176.

Performance of patient examinations in a clinical setting under the supervison of a radiologic technologist. 24 hrs. field study/wk.

KRAD 176

RADIOGRAPHIC POSITIONING II (3 CR)

Prerequisite: BIOL 140 and KRAD 165, KRAD 172 and KRAD 173, each with a minimum grade of "C", and concurrent enrollment in KRAD 162 and KRAD 175.

Anatomy, radiographic positioning, and film critque of pelvis, bony thorax, vertebral column, cranium, and facial bones. 2.5 hrs. lecture, 1 hr. lab/wk.

KRAD 178

CLINICAL TRAINING III (4 CR)

Prerequisites: KRAD 175 and KRAD 176 each with a minimum grade of "C".

Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist. 20 hrs. clinical/wk.

KRAD 278

IMAGING MODALITIES/PATHOLOGY (3 CR)

Prerequisites: KRAD 279, KRAD 280, KRAD 281 and KRAD 285, each with a minimum grade of "C," and concurrent enrollment in KRAD 282

Human disease processes and their relationship to patient examination in the radiology department. Radiographic pathology and imaging modalities. 3 hrs. lecture/wk.

KRAD 279

RADIOGRAPHIC POSITIONING III (2 CR)

Prerequisites: KRAD 176 and KRAD 178, each with a minimum grade of "C," and concurrent enrollment in KRAD 280, KRAD 281 and KRAD 285.

Anatomy and positioning of the biliary system, mammary glands, and temporal bone. Advanced film critique of radiographs of all routine radiographic examinations. 2 hrs. lecture, 2 hrs. lab/wk.

KRAD 280

CLINICAL TRAINING IV (4 CR)

Prerequisite: KRAD 162, KRAD 176 and KRAD 178, each with a minimum grade of "C," and concurrent enrollment in KRAD 279, KRAD 281 and KRAD 285.

Performance of patient examinations in a clinical setting under the supervision of a radiological technologist. 24 hrs. clinical/wk.

KRAD 281

RADIATION PHYSICS (3 CR)

Prerequisite: PHYS 162 and KRAD 171 each with a minimum grade of "C".

Application of fundamental physics principles relating to energy, electricity, and magnetism and their relevance to the study of x-rays and x-ray equipment.

KRAD 282

CLINICAL TRAINING V (4 CR)

Prerequisites: KRAD 279, KRAD 280, KRAD 281 and KRAD 285, each with a minimum grade of "C", and concurrent enrollment in KRAD 278.

Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist. 24 hrs. clinical/wk.

KRAD 283

FINAL SEMINAR (2 CR)

Prerequisites: KRAD 278 and KRAD 282, each with a minimum grade of "C".

Preparation for the National Registry examination. Simulation of American Registry of Radiologic Technologists examination. 2 hrs. lecture/wk.

KRAD 285

SPECIAL PROCEDURES (2 CR)

Prerequisites: KRAD 170, KRAD 171 and KRAD 178, each with a minimum grade of "C," and concurrent enrollment in KRAD 279, KRAD 280 and KRAD 281.

Anatomy, positioning, equipment, and special tasks related to performance of special contrast media studies. Vascular, neurological, lymphatic, skeletal, and pulmonary systems. 2 hrs. lecture/wk.

Railroad Conductor (RRTC)

RRTC 123
INTRODUCTION/CONDUCTOR SERVICE (4 CR)

Prerequisite: Admission to the JCCC railroad operations program, conductor option

This is an introductory course for the conductor service option within the railroad operations program. Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and the basic responsibilities of conductors. 5 hrs. lecture, demonstration/wk.

RRTC 175
CONDUCTOR MECHANICAL OPERATION (2 CR)

Prerequisite: Admission to the JCCC's railroad operations program, conductor option, and successful completion of RRTC 123 with a grade of "C" or better.

This course covers mechanical operations that relate to conductor service. This is the second course in the conductor option of the railroad operations degree program. Upon successful completion of this course, the student should be able to describe the importance and application of freight care mechanical policies and practices to ensure safe railroad operations. 2.5 hrs. lecture/wk.

RRTC 261
CONDUCTOR SERVICE (2 CR)

Prerequisite: Admission to the JCCC railroad operations program, conductor option, and successful completion of RRTC 175 with a minimum grade of "C".

Upon successful completion of this course, the student should be able to describe and apply railroad organization and general operations, policies and practices to ensure railroad safety, and basic responsibilities of conductors. This course includes safety and the general rules with which conductors must comply and teaches the techniques and administrative procedures conductors use on the job to perform safely and effectively. 2.5 hrs. lecture/wk.

RRTC 263
GENERAL CODE/OPERATING RULES (4 CR)

Prerequisite: Admission to the JCCC railroad operations program, conductor option, and successful completion of RRTC 261 with a minimum grade of "C".

This is the fourth course in the conductor option for the railroad operations degree program. Conductors must maintain a thorough understanding of the General Code of Operating Rules (GCOR). This course provides an in-depth study of the GCOR. Upon completion of this course, the student should be able to demonstrate abilities to apply the General Code of Operating Rules to safe and efficient train movement and operations. 5 hrs. lecture/wk.

RRTC 265
CONDUCTOR FIELD APPLICATION (9 CR)

Prerequisite: Admission to the JCCC railroad program, conductor option, and successful completion of RRTC 263 with a minimum grade of "C"

Upon successful completion of this course, the student will have observed actual operations and be able to apply skills learned in classroom-based instruction to those operations. The student will observe and perform operations under the supervision of experienced conductor mentors in actual field locations. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

Railroad Dispatcher (RRTD)

RRTD 122
INTRO TO RAILROAD DISPATCHING (2 CR)

Prerequisite: Admission to the JCCC railroad operations program, dispatcher option

Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and basic dispatching functions. 2.5 hrs. lecture/wk. Class currently held at Tarrant County Junior College, Ft. Worth, Texas.

RRTD 271
APPRENTICE RR DISPATCH TRNG I (6 CR)

Prerequisite: Admission to the JCCC's railroad operations program, dispatcher option, and successful completion of RRTD 275 with a minimum grade of "C"

Upon successful completion of this course, the student should demonstrate abilities to apply the General Code of Operating Rules, Maintenance of Way operating rules and the Train Dispatcher's Manual of policies and practices to safe and effective train movement and maintenance operations. This is an intensive course that prepares students to observe actual dispatching operations. 7.5 hrs. lecture/wk. Class currently held at Tarrant County Junior College, Ft. Worth, Texas.

RRTD 272
APPRENTICE RR DISPATCH TRNG II (6 CR)

Prerequisite: Admission to the JCCC railroad operations program, dispatcher option, and successful completion of RRTD 271 with a minimum grade of "C"

Upon successful completion of this course, students should demonstrate their ability to use centralized traffic control equipment, computerized track warrant control equipment, and management information systems that record and report train movement. Students will also identify and resolve traffic conflicts safely and effectively. This is an intensive course in which students observe, practice and demonstrate rail traffic dispatching functions in a laboratory setting. In addition, the student will spend an additional week observing dispatching-related activities in the field in conjunction with this course. 4.5 hrs. lecture, 3 hrs. lab/wk. Class currently held at Tarrant County Junior College, Ft. Worth, Texas.

RRTD 275
RR DISPATCHING FIELD OBSERVAT (3 CR)

Prerequisite: Admission to the JCCC railroad operations program, dispatcher option, and RRTD 122 with a minimum grade of "C"

Upon successful completion of this course, the student will have observed actual dispatching operations and should be able to identify major responsibilities. Students will observe operations under the supervision of experienced dispatcher mentors in actual dispatching offices. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.Class currently held at Tarrant County Junior College, Ft. Worth, Texas.

RRTD 276
RR DISPATCHING FIELD APPLICAT (5 CR)

Prerequisite: Admission to the JCCC railroad operations program, dispatcher option, and RRTD 272 with a minimum grade of "C"

Railroad Dispatching Field Application is a 10-week period in which students will observe and practice operations under the supervision of experienced dispatcher mentors in actual dispatching offices. Upon successful completion of this course, students will be able to apply skills learned in classroom-based dispatching instruction to those operations. Minimum 15 hrs. on-the-job training/wk. Class currently held at Tarrant County Junior College, Ft. Worth, Texas.

Railroad Electronics (RREL)

RREL 144
INTRODUCTION TO PLCs (2 CR)

Prerequisite: Approval of the railroad training director and the JCCC division administrator

This course is an introduction to programmable logic controllers using Allen Bradley PLC-5 processors and is designed for electricians and maintenance personnel. Upon successful completion of this course, the student should be able to identify the components of programmable controllers, configure and set up the controllers for specific operations, write and test basic programs, and apply

troubleshooting procedures to locate problems. 1 hr. lecture, 1.5 hrs. lab/wk.

RREL 172
PLC APPLICATIONS (2 CR)

Prerequisite: Approval of the railroad training director and the JCCC division administrator

This course is designed for electricians and maintenance personnel. It is intended as an advanced course for people with basic knowledge in programmable logic controllers operation. Allen Bradley PLC-5 family of processors is used for hands-on-training. Upon successful completion of this course, the student should be able to use advanced PLC instructions such as file, block transfer, stack concepts/operations and sequences, and configure and operate a network of processors. 1 hr. lecture, 1.5 hrs. lab/wk.

RREL 180
INTRO TO RAILROAD ELECTRONICS (1 CR)

Prerequisite: Approval of the railroad training administrator and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to state basic safety procedures in electronics, explain basic principles of electronics, perform basic electronic calculations and use basic electronic tools. 2.5 hrs. lecture, 2.5 hrs. lab/wk.

RREL 181
CIRCUIT ANALYSIS DC/AC (6 CR)

Prerequisites: RREL 180 and the approval of the railroad training administrator and the JCCC division administrator

This course is designed to meet the needs of the railroad electronic maintainers. Upon successful completion of this course, the student should be able to identify and use fundamental DC circuit concepts such as Kirchhoff's laws, power and energy formulas, Ohm's Law, Thevenin's Theorem and Norton's Theorem as they apply to resistive circuits. Also upon successful completion of this course, the student should be able to analyze circuits involving resistors, capacitors and inductors driven by time-variant sources. This analysis will involve both time and frequency responses. 3 hrs. lecture, 2 hrs. lab, 3 hrs. alternate deliver/wk.

RREL 182
SEMICONDUCTOR DEVICES/CIRCUITS (6 CR)

Prerequisites: RREL 181 and the approval of the railroad training administrator and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to describe the characteristics of basic semiconductor devices, explain practical circuits using semiconductor devices and analyze these circuits for DC and AC quantities. 3 hrs. lecture, 2 hrs. lab., 3 hrs. alternate delivery/wk.

RREL 183
DIGITAL TECHNIQUES (6 CR)

Prerequisites: RREL 182 and approval of the railroad training administrator and JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to analyze basic digital circuitry consisting of arrangements of gates and flip-flops using TTL and CMOS integrated circuits, as well as relay logic. This analysis will include the application of elementary Boolean algebra, truth tables and timing diagrams. 3 hrs. lecture, 2 hrs. lab., 3 hrs. alternate delivery/wk.

RREL 284

ELECTRONIC COMMUNICATIONS (6 CR)

Prerequisites: RREL 183 and approval of the railroad training director and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to state the principles of amplitude, frequency, phase and pulse modulation and describe the technologies of transmitters, receivers, antennas, local area networks, wide-area networks and telephone systems. 3 hrs. lecture, 2 hrs. lab, 3 hrs. activity/wk.

RREL 285
MICROPROCESSOR TECHNIQUES (6 CR)

Prerequisites: RREL 183 and approval of the railroad training director and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to analyze and troubleshoot 6800 family microprocessor circuitry as well as microprocessor interface circuitry. 3 hrs. lecture, 2 hrs. lab, 3 hrs. activity/wk.

RREL 286
APPLIED MICROPROCESSORS (2 CR)

Prerequisites: RREL 285 and approval of the railroad training director and the JCCC division administrator

This course is designed to provide an introduction to advanced microcomputer concepts and applications. This course is a continuation of topics introduced in the microprocessor course, with specific applications in general-purpose microcomputers (PCs) and dedicated microprocessor-based control systems. Included are hardware and software training in operating systems, peripherals, monitors, processors, storage media, maintenance, diagnostics and troubleshooting. Analog and digital data acquisition and processing, as well as voice digitization and playback, will be demonstrated. Presentations and labs will include incorporation of these functions into a PC, Harmon HLC and the Servo 9000 hot box detector. 1 hr. lecture, 2 hrs. lab/wk.

Railroad Industrial Technology (RRIT)

RRIT 122
ELEMENTS OF WELDING (3 CR)

Prerequisites: Approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to cut and weld using oxyacetylene welding (OAW) and oxyfuel (OFC) and shielded metal arc welding (SMAW). The OAW portion will cover puddling with and without filler metal; OFC will cover straight-line cutting, beveling, piercing and gouging. The SMAW portion will cover flat position and will be limited to fillet welds. The student should be able to discuss electrical safety in shielded metal arc welding (SMAW), handle welding cables properly, understand eye hazards, list safe clothing requirements and discuss environmental safety. This knowledge will be evidenced by achieving the specified score on the unit test. 2 hrs. lecture, 3 hrs. lab/wk.

RRIT 123
BASIC WELDING (3 CR)

Prerequisites: RRIT 122 or approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to properly use oxy-fuel cutting (OFC), shielded metal arc welding (SMAW) and air carbon arc cutting (CAC-A) equipment. The SMAW portion of the course will concentrate on 1G and 2F welds with bend tests being performed on selected weldments. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 127
WELDING PROCESSES (2 CR)

Prerequisites: Approval of the BNSF training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify various welding process used by the railroad and other industries. Standard shop and maintenance welding processes will be taught and demonstrated. Welds will be tested and inspected according to industry standards. 1 hr. lecture, 1.5 hrs. lab/wk.

RRIT 132
THERMITE WELDING (3 CR)

Prerequisites: Approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to produce in a safe manner high-quality, sound Thermite welds on standard rail and mismatched rail. This course is intended for people who are employed in the railroad industry. This will be specific, in-depth, industrial training. Students will be required to make various rail alignments and grind various new and worn rail. The student should also be able to clean a used crucible, assemble a crucible and temper new and used crucible. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 136
RAIL & SP REPAIR WELDING (3 CR)

Prerequisites: RRIT 123 and approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify and/or produce in a safe manner high-quality welding repairs and correct welding techniques to railroad track components to include maintenance, grinding, welding and repairs of switches, track rail ends, track wheel burns, battered welds, rail transition ramp building methods, Pandrol weld on shoulders, proper placement of work piece connections, and approved switch point welding procedures, as specified by the Burlington Northern Santa Fe Railway. This course will involve the study of different welding processes, welding safety, proper grounding techniques, rail heater and metallurgy. The effects of heat in relationship to specific rail steel components will be discussed. Students will be required to experience all appropriate methods and processes welding, cutting, grinding, straight edging rail steel and preparing switch points for proper mating surface according to current industry standards. Evaluation will be a classroom and laboratory setting. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 137
STRUCTURAL WELDING SMAW (3 CR)

Prerequisites: RRIT 123 and approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be qualified to weld with SMAW according to AWS D1.1.96 code. All welds will be made in the vertical (3G) and overhead (4G) positions. Passing or failing will be determined by the student's ability to successfully produce welds according to prescribed standards in AWS D1.1.96. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 138
STRUCTURAL WELDING FCAW (3 CR)

Prerequisites: RRIT 137 and approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be qualified to weld with FCAW according to AWS D1.1.96 code. All welding will be made in the vertical (3G and 3F) and overhead (4G and 4F) positions. Passing or failing will be determined by the student's ability to successfully produce welds according to prescribed standards in AWS D1.1.96. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 139
STRUCTURAL WELDING PIPE (3 CR)

Prerequisites: RRIT 137 and approval of theBNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be qualified to weld on pipe using the SMAW process. All welding will be made in the vertical uphill fixed position (5G). Passing or failing will be determined by the student's ability to successfully produce test welds. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 140
STRUCTURAL QUALITY SMAW (3 CR)

Prerequisites: RRIT 127 or approval of BNSF training director and JCCC division administrator

Upon successful completion of this course, the student should be qualified to weld with shielded metal arc welding (SMAW) according to industrial standards. Test welds will be made in the vertical (3G) and overhead (4G) positions; limited thickness. Passing or failing will be determined by the student's ability to successfully produce welds according to prescribed American Welding Society (AWS) standards. The oxyfuel cutting (OFC) portion will include cutting metal to specific sizes and shapes. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 141
STRUCTURAL QUALITY GMAW (3 CR)

Prerequisites: RRIT 127 or approval of BNSF training director and JCCC division administrator

Upon successful completion of this course, the student should be able explain the theory of gas metal arc (GMAW) and fluxed-cored arc welding (FCAW), identify materials and use equipment related to the processes. The student will weld on mild steel plate in all positions producing both fillet and groove welds with the GMAW process with a U-bend test being performed in selected positions according to industry standards. The student will also weld in selected positions on mild steel plate with the FCAW process. Selected welding codes and specifications will be used as a reference for this class. The oxy-fuel (OFC) will be used to prepare mild steel for welding. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 142
STRUCTURAL PILE WELDING (3 CR)

Prerequisites: RRIT 137 and RRIT 138 and approval of BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to splice pipe and H-beam piling and install cap plate gussets according to Burlington Northern Santa Fe (BNSF) standard blueprints. This course shall make use of oxy-fuel cutting (OFC), grinding, shielded metal arc welding (SMAW), and flux cored arc welding (FCAW) to prepare, fit and weld piling. Selected welds will have test strips bent to check for soundness of welds. These strips should meet basic American Welding Society (AWS) test standards. Basic metallurgy will be discussed as it applies to the need for preheat and post heat in the building of railroad bridges. 1 hr. lecture and 4 hrs. lab/wk.

RRIT 143
THERMITE/WELD FOR SUPERVISORS (2 CR)

Prerequisites: Approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to produce in a safe manner high-quality, sound thermite welds on standard rail and mismatched rail. This course is intended for people who are employed in the railroad industry. This will be specific, in-depth, industrial training. Students will be required to make various rail alignments and grind various new and worn rail. The students should also be able to clean a used crucible, assemble a crucible and temper new and used crucible. 1.5 hrs. lecture, 1 hr. lab/wk.

RRIT 145
FROG WELDING (3 CR)

Prerequisite: RRIT 123 and approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to repair by welding a manganese frog casting according to Burlington Northern Santa Fe Railway standards. This course will involve the study of different welding and cutting processes, with emphasis on the FCAW process. Metallurgy and the effects of heat in relationship to austenitic manganese steel will be discussed. Students will be required to cut, grind, straight edge, dye penetrant test, weld and monitor heat input during the repair process on austenitic steel frog casting for evaluation in an actual laboratory setting. 1 hr. lecture, 4 hrs. lab/wk.

RRIT 155
RAILROAD WELDING REVIEW (2 CR)

Prerequisites: Approval of the BNSF manager of engineering and maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify currently used rail, frogs, switch points, crossings, Conley's and insulated joint plugs. The student should be able to locate operating procedures in an approved manual and apply them to the appropriate component. In addition, the student should be able to describe the proper application of OFC, OFW, heating, SMAW, FCAW, CAC-A and thermite welding procedures. 1.5 hrs. lecture, 1 hr. lab/wk.

RRIT 156
RAIL & FROG WELDING REVIEW (3 CR)

Prerequisite: Approval of BNSF manager of engineering maintenance training and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify currently used types and sizes of rail, frogs, switch points and insulated joints. The student should be able to locate operation procedures in an approved manual and apply them to the appropriate component. In addition, the student should be able to describe the proper application of oxygen fuel cutting (OFC), oxy-fuel heating, shielded metal arc welding (SMAW), flux core arch welding (FCAW), carbon arc cutting with air (CAC-A), thermite welding (TW) and grinding procedures. 3 hrs. lecture/wk.

RRIT 271
RAILROAD WELDING INTERNSHIP (6 CR)

Prerequisites: Admission to the JCCC railroad program, welding option, and successful completion of RRIT 122 and RRIT 123 and RRIT 136 and RRIT 145 and RRIT 132 with a grade of "C" or better.

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students with on-the-job experience under the supervision of professionals in the railroad industry. The work will be developed cooperatively with railroads, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. Minimum of 120 workdays required.

Railroad Maintenance of Way (RRMW)

RRMW 132
RAILROAD STRUCTURES LAYOUT (3 CR)

Prerequisite: Approval of the railroad training

administrator and the JCCC division administrator This is a beginning course for railroad maintenance-of-way personnel working with bridge and building construction. Students will learn to read construction blueprints used in railroad projects and perform layout work for railroad construction. Also, students will

learn how to use basic surveying principles and equipment typically used at railroad construction sites. 2 hrs. lecture, 3 hrs. lab/wk.

RRMW 135
CONCRETE TECHNOLOGY (2 CR)

Prerequisite: Approval of the railroad training administrator and the JCCC division administrator

This course contains information that will help experienced and inexperienced students understand the principles of quality concrete. The emphasis will be on allowing concrete to reach its highest level of durability through proper mix design, placing and finishing techniques, and curing methods. 1.5 hrs. lecture, 1 hr. lab/wk.

Railroad Operations (RRT)

RRT 120
HISTORY OF RAILROADING (3 CR)

This course covers the history and traditions of railroading and the industry's role in North American economic development. Upon successful completion of this course, students will be able to list and explain the significance of major events in North American railroading. 3 hrs. lecture/wk.

RRT 121
RAILROAD TECHNICAL CAREERS (3 CR)

This course includes information about technical careers in railroading, enabling students to choose suitable career paths. This course includes field trips that will demonstrate the relationships among technical work groups in day-to-day railroad operations. Upon successful completion of this course, students should be able to describe basic technical job functions, requirements and characteristics. 3 hrs. lecture/wk.

RRT 150
RAILROAD OPERATIONS (3 CR)

This course includes information about the industry, its major assets, structure and typical operations. Upon successful completion of this course, students will be able to define the current North American railroading industry characteristics, basic operations components and processes, and industry structure and administrative processes. 3 hrs. lecture/wk.

RRT 165
RR SAFETY, QUALITY/ENVIRON (3 CR)

This course covers the importance of safety, quality, personal health and environmental awareness to the railroad industry and emphasizes the basic tools and techniques for improving these conditions on the job. Upon successful completion of this course, students should be able to define and explain the need for improved safety, quality, health and environmental awareness; describe their basic principles; explain the elements of successful programs; and apply these elements to typical tasks on the job. 3 hrs. lecture/wk.

Railroad Operations-Mechanical (RRTM)

RRTM 124
ORIENTA/RR MECHANICAL CRAFT (2 CR)

Prerequisite: Admission to the JCCC railroad operations program, mechanical option

This course is designed to familiarize the student with work in railroad mechanical

crafts. Upon successful completion of the course, students should be able to describe apprenticeship program structures, benefits, organizational goals, basic safety and quality principles, and other aspects of mechanical craft work. 2.5 hrs. lecture/wk.

RRTM 170
RR MECHANICAL SAFETY & HEALTH (2 CR)

Prerequisite: Admission to the JCCC's railroad operations program, mechanical option, and completion of RRTM 124 with a minimum grade of "C"

This course is designed to teach the principles and policies governing railroad safety and health. Upon successful completion of this course, the student should be able to describe safety and health rules and policies, including applying a team process to improving safety and health, use and care of personal protective equipment, back injury prevention, hazard communications, lockout/tagout procedures, and hearing conservation. Students will be qualified to perform first aid and CPR and will be able to conduct a job safety analysis. 2.5 hrs. lecture/wk.

RRTM 251
LOCOMOTIVE DIESEL ENGINE FUNDA (2 CR)

Prerequisite: Admission to the JCCC railroad operations program, mechanical option, and completion of RRTM 124 and RRTM 170 with a minimum grade of "C"

This course teaches the principles of diesel engine operation. Upon successful completion of this course, students will be able to identify 2-cycle and 4-cycle diesel engine parts and describe how diesel engine lubricating, cooling, and fuel systems operate. 1.5 hrs. lecture, 1 hr. lab/wk.

RRTM 253
FREIGHT CAR FUNDAMENTALS (2 CR)

Prerequisite: Admission to the JCCC's railroad operations program, mechanical option, and completion of RRTM 124 and RRTM 170 with a minimum grade of "C"

This course teaches the basic types and purposes of railroad freight cars. Upon successful completion of this course, students will be able to identify five types of railroad freight cars, explain their functions, describe their basic construction and explain purposes and references for AAR rules and regulations governing freight cars. 1.5 hrs. lecture, l hr. lab/wk.

RRTM 254
BASIC LOCOMOT ELECTRIC/ELECTRO (2 CR)

Prerequisite: Admission to the JCCC's railroad operations program, mechanical option and completion of RRTM 124 and RRTM 170 with a minimum grade of "C"

This course teaches the theory and operation of electrical and electronic circuitry on board modem locomotives and complements EMD and GE electrical systems classes. Upon successful completion of this course, students will be able to describe the theory and purpose of the processes and operation of locomotive electrical system components and maintenance techniques. 1.5 hrs. lecture, 1 hr. lab/wk.

Railroad Work Equipment (RRWE)

RRWE 136
BASIC ELECTRONICS (2 CR)

Prerequisites: Approval of the railroad training director and the JCCC division administrator

This course is an introduction to electronics with a review of basic electrical concepts. Instruction is provided on the operation and use of an oscilloscope, function generator, DC power supply, digital multi-meter and watt-meter. The course also includes an introduction to electronic devices, schematics, basic electronic formulas and programmable logic controllers. 1 hr. lecture, 1.5 hrs.

lab/wk.

RRWE 138
WORK EQUIPMENT SYMBOLS (2 CR)
Prerequisite: Approval of the railroad training administrator and the JCCC division administrator

This course is designed to introduce the mechanic to the different types of symbols found on railroad track equipment. Major symbols families that will be discussed include mechanical, hydraulic, pneumatic, ladder and logic devices. At the end of each major topic, several small projects will be assigned to ensure that understanding has been achieved. As a final project, students will be assigned a project that will test their ability to use correctly several different families of symbols in one complete working drawing. 1 1/2 hrs. lecture, 1 hr. lab/wk.

RRWE 146
HYDRAULIC PRINCIPLES (2 CR)
Prerequisite: Approval of the railroad training administrator and the JCCC division administrator

This course is designed for operators and maintenance personnel who use hydraulic systems in their work. Upon successful completion of this course, the student should be able to apply hydraulic principles to improve operational availability of equipment. Students will learn to read hydraulic diagrams and perform preventive maintenance and troubleshooting. In order to explain component operation, there will be extensive use of cut-away components. 1 hr. lecture, 1.5 hrs. lab/wk.

RRWE 148
ELECTRONIC PRINCIPLES (2 CR)
Prerequisites: Approval of the railroad training administrator and the JCCC division administrator

This introductory course is designed to familiarize the student with the basic principles of electricity/electronics, the proper usage of a VOM or DMM, the reading of electrical prints in performing basic troubleshooting and the ability to identify basic hardware found in electrical circuits on maintenance-of-way equipment. 1 hr. lecture, 1.5 hrs. lab/wk.

RRWE 157
FLUID POWER SYSTEMS (2 CR)
Prerequisite: Approval of the railroad training administrator and the JCCC division administrator

This course is designed to introduce the field of fluid power. Major topics that will be discussed include the two types of fluid power systems, major parts in a fluid power system and their purpose, the calculations needed to size motors and cylinders, the proper preventive maintenance procedures needed to keep the system operating at peak efficiency, and the troubleshooting methods used to isolate the problem in a system that is not working correctly. 2 hrs. lecture/wk.

RRWE 190
ADVANCED HYDRAULIC PRINCIPLES (2 CR)
Prerequisites: RRWE 146 and the approval of the railroad training administrator and the JCCC division administrator

This advanced course contains information on hydraulic components found on the more complex maintenance-of-way equipment. Upon successful completion of this course, the student should be able to understand symbols, describe the theory of operation of and perform basic troubleshooting tasks on these components. 1 hr. lecture, 1.5 hrs. lab/wk.

RRWE 192
ADVANCED ELECTRONIC PRINCIPLES (2 CR)

Prerequisites: RRWE 146 and the approval of the railroad training administrator and the JCCC division administrator

This advanced course contains information on electronic components and circuits found on the more complex maintenance-of-way equipment. Upon successful completion of this course, the student should be able to understand symbols, describe the theory of operation of and perform basic troubleshooting tasks on these components. 1 hr. lecture, 1.5 hrs. lab/wk.

Reading (RDG)

RDG 124
BASIC VOCABULARY & READ SKILLS (3 CR)
Prerequisite: Appropriate assessment score

This is the beginning course in a reading-course sequence designed especially for those who have difficulty understanding English in print. It focuses on building a functional vocabulary and increasing comprehension on the sentence, paragraph and multi-paragraph level. 3 hrs./wk. This course does not fulfill degree requirements.

RDG 125
FUNDAMENTALS OF READING (3 CR)
Prerequisite: RDG 124 or appropriate assessment score.

This is a mandatory reading course based on JCCC assessment results. It is designed for students who need to improve their understanding of written expression. The focus is on the development of vocabulary, dictionary usage, comprehension and written communication. RDG 126- Reading Skills Improvement is required to complete the mandatory reading program. This course does not fulfill degree requirements. 3 hrs./wk.

RDG 126
READING SKILLS IMPROVEMENT (3 CR)
Prerequisite: RDG 125 or LC 125 or appropriate assessment score

This final course is a mandatory reading course based on JCCC assessment scores. It is designed for students who who need to improve their understanding of written expression. The focus of the course is on higher-level comprehension and vocabulary skills. Students use a weekly news magazine to apply and practice skills learned in the class and to provide a background for written assignments. 3 hrs./wk. This course does not fulfill degree requirements.

RDG 127
COLLEGE READING SKILLS (3 CR)
Prerequisite: RDG 126 or LC 126 or appropriate assessment score

In this advanced course, designed for students who wish to further improve their reading, students will develop critical reading skills, expand background knowledge through reading, increase vocabulary, develop flexible reading techniques, and improve study and writing skills. Students use selected periodicals to apply and practice skills learned in the class and to provide a background for written assignments and class discussions. 3 hrs./wk.

Religion (REL)

REL 120
EXPLORING WORLD RELIGIONS (3 CR)

This course is a comparative study of the world's major religious traditions. The basic beliefs of Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity and Islam will be explored. A comparative framework for religious studies will be provided, and essential differences between Eastern and Western religions will be

noted. Literary texts and iconographic images will be studied as appropriate. 3 hrs. lecture/wk.

Respiratory Care (RC)

RC 125
BEGINNING PRINCIPLES/RESP CARE (4 CR)
Prerequisite: Admission to the Respiratory Care Program

This is an introduction to the basic therapeutic modalities used in respiratory care, including patient safety and comfort considerations, infection control and standard precautions, medical gas delivery, humidity and aerosol therapy, basic respiratory pharmacology, secretion clearance techniques and lung expansion therapy. Emphasis is on patient assessment, clinical application of therapies, therapy evaluation and communication techniques. The roles of respiratory care in the health care system and basic respiratory care service scope, organization and operation are also introduced. Students will have the opportunity to work with patients after two to three weeks of introductory lecture and lab demonstration and practice. 6 hrs. lecture, 16 hrs. lab/wk. Summer.

RC 130
RESPIRATORY CARE EQUIPMENT (4 CR)
Prerequisite: Admission to the Respiratory Care Program

This course is an introduction to basic respiratory care equipment. The operation, function, calibration, troubleshooting and maintenance for oxygen administration devices, aerosol generators, humidifiers and hyperinflation devices will be adressed. Medical gas production and storage will also be adressed. 6 hrs. lecture, 8 hrs. lab/wk. Summer

RC 135
CARDIOPULMONARY MEDICINE I (1 CR)
Prerequisite: Admission to the Respiratory Care Program

This is the first of three courses that provide a detailed review of the respiratory and cardiac system anatomy and physiology and the clinical implications of normal and abnormal function. 2 hrs./wk. Summer.

RC 220
CARDIOPULMONARY PHYSIOLOGY (2 CR)
Prerequisite: Successful completion of the summer sequence of respiratory care courses

This is a comprehensive study of the physiology and pathophysiology of the pulmonary, cardiovascular and renal systems as they relate to respiratory care. 2 hrs./wk. Fall.

RC 230
CLINIC TOPICS & PROCEDURES I (4 CR)
Prerequisite: Successful completion of the summer sequence of respiratory care courses

This course supplements the fall clinical experiences. Concepts, techniques and procedures learned in the summer semester are reinforced. The student will develop new understandings and skills in the acute care, basic emergency care and introductory-level critical care settings. Emphasis will be on arterial blood gas procurement and analysis, cardiac rhythm assessment and management, airway equipment and management procedures, patient management of obstructive lung disorders, perioperative care and chest trauma. In addition, basic mechanical ventilation concepts and techniques will be addressed as they relate to physiologic effects, ventilator commitment, management and basic troubleshooting. 3 hrs. lecture, 3 hrs. lab/wk. Fall

RC 231
CLINIC TOPICS & PROCEDURES II (4 CR)

Prerequisite: Successful completion of the fall sequence of respiratory care courses

This course supplements the spring clinical experiences. Concepts, techniques and procedures learned in the fall semester are reinforced. The student will refine understandings of and skills in the acute care, basic emergency care and critical care settings. Emphasis will be on ventilator management of patients with specific lung insults, neurological compromise and cardiac problems. Advanced mechanical ventilation concepts and techniques will be addressed as they relate to physiologic effects, management and troubleshooting. Home care, pulmonary rehabilitation, physician-assisted procedures, cardiopulmonary stress testing, patient case management and department management will be addressed. 3 hrs. lecture, 3 hrs. lab/wk. Spring.

RC 233
RESPIRATORY CARE OF CHILDREN (2 CR)

Prerequisite: RC 230

The focus will be on the respiratory care of neonatal and pediatric patients, with emphasis on the management of cardiopulmonary disease states unique to children. Information will be based on developmental anatomy and physiology, pathology, diagnostic/laboratory assessments, and associated patient management in the acute, critical, emergency care, transport and home care settings. 2 hrs./wk. Spring.

RC 235
CARDIOPULMONARY MEDICINE II (2 CR)

Prerequisite: Successful completion of the summer sequence of respiratory care courses

This is the second in a series of three courses that provide a detailed review of the physical and diagnostic assessments of the cardiopulmonary patient and the related clinical implications of the assessment finding. 2 hrs. lecture/wk. Fall

RC 236
CARDIOPULMONARY MEDICINE III (2 CR)

Prerequisite: Successful completion of the fall sequence of respiratory care courses

This is the third in a series of three courses that provide a detailed review of pulmonary disorders, their pathology and their management. 2 hrs. lecture/wk. Spring

RC 240
CARDIOPULMONARY PHARMACOLOGY (2 CR)

Prerequisite: Successful completion of the summer sequence of respiratory care courses

This course acquaints the student with general principles of pharmacology and provides a comprehensive review of all drugs and drug groups that are either administered by respiratory-care practitioners or play an integral part in the management of patients they may encounter. Emphasis is on the clinical application of pharmaclogical agents, their therapeutic effects, mechanism of action and adverse effects, rather than the biochemistry involved. 2 hrs. lecture/wk. Fall.

RC 245
CRT-RRT CLINIC TOPICS & PROC (4 CR)

Prerequisite: Admission to the Respiratory Care Program CRT to RRT transition process

This course is a transition course for the certified respiratory therapist preparing for the registry respiratory care process. Assessment, monitoring and respiratory

management of the adult critical care patient is the primary emphasis. 4 hrs./wk.

RC 271
CLINICAL PRACTICE I (6 CR)

Prerequisite: Successful completion of the summer sequence of respiratory care courses

This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students will have the opportunity to work with patients under close supervision to further develop their skill and understanding of basic respiratory care procedures for adults and children. The course objectives progress throughout the semester to involve the student initially in basic care of the less critically ill patient. As their comfort level and exposures progress, students are allowed to work with the more critically ill patients. 24 hrs./wk. Fall.

RC 272
CLINICAL PRACTICE II (6 CR)

Prerequisite: Successful completion of the fall sequence of respiratory care courses

This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students will have the opportunity to work with patients under close supervision to further develop their skill and understanding of critical respiratory care procedures for adults and children. Students will also be involved in specialty activities to include physician rounds, pulmonary rehabilitation, home care, pulmonary function and cardiopulmonary stress testing. 24 hrs./wk. Spring.

Sociology (SOC)

SOC 122
INTRODUCTION TO SOCIOLOGY (3 CR)

Introduction to Sociology introduces students to sociology, the "science of society," and its approach to human social life. The course shows students how sociologists conduct research, and it describes the basic concepts and theories sociologists use to explain the social world.

SOC 125
SOCIAL PROBLEMS (3 CR)

Selected social problems will be analyzed. Problems associated with race, gender, class, deviance, crime and ecology will be examined as perennial issues in contemporary society. In addition, other topics will be analyzed as they arise or as the instructor and students determine them to be significant. The history and development of each problem, as well as possible solutions, will be examined from a variety of perspectives. 3 hrs. lecture/wk.

SOC 131
MARRIAGE AND THE FAMILY (3 CR)

This is a sociological examination of marriage and the family as a social institution. It will emphasize changing roles, family formation, socialization, domestic conflict, interaction among family members and marriage partners, and the role of marriage and the family in society. 3 hrs./wk.

SOC 146
INTRO SOCIAL WORK/SOC WELFARE (3 CR)

This course will introduce the student to the profession of social work and to the history and development of social welfare and social service systems in the United States. This is a required introductory course in the sequence of study leading to a professional degree (BSW, MSW or DSW) in social work. 3 hrs./wk.

SOC 147
SOCIAL WORK/SOCIAL JUSTICE (3 CR)

The history of social movements in the United States will be integrated into exploration of current economic, political, religious and psychosocial issues, at micro and macro practice levels, relevant to the professional practice of social work at the BSW or MSW level of practice. This course is designed to support the National Association of Social Workers (NASW) Code of Ethics and Council of Social Work Education (CSWE) requirements for culturally competent practice. 3 hrs./wk.

SOC 152
PERSPECTIVES ON AGING (3 CR)

Social aspects of aging will be identified. Areas of special interest will include research themes and demographic trends; aging and its relationship to family, the economy, politics, religion and education; the effect of cultural values on behavior; and the future of the elderly. 3 hrs./wk.

SOC 165
CHINESE SOCIETY:PAST & PRESENT (3 CR)

An introduction to Chinese society since 1949, this course examines Chinese society and culture and focuses on contemporary social change while tracing the historical roots of Chinese culture and institutions. Social processes such as social movements, institutional development, political change, social organization and conflict are examined and analyzed. 3 hrs. lecture/wk. This course is typically offered in the spring semester.

SOC 200
INTERCULTURAL APPLICATIONS (3 CR)

Prerequisite or corequisite: SPD 180

This course will provide students with direct experience with people from other cultures and in community organizations. Through their work with international representatives and service agencies, students will gain experiential and reflective knowledge of various cultures, social institutions and social issues and will develop skills needed to successfully negotiate intercultural settings. Enrollment in the course requires participation in a weekend retreat and some additional hours in activities outside the classroom. 3 hrs. lecture/wk. This course is typically offered in the spring semester.

SOC 210
METHODOLOGY IN SOCIAL SCIENCES (3 CR)

Prerequisite: PSYC 130 or SOC 122 or ECON 230

This course deals with scientific research methods utilized in the social sciences, especially psychology, sociology, political science, and anthropology. The course examines a wide range of data collection methodologies including observation, questionnaire construction, and controlled experimentation. The course will be beneficial for analyzing and evaluating the quality of research findings reported in both the popular and academic press. It will also be useful to those who plan to engage in occupations requiring the use of research methodology. 3 hrs. lecture/wk.

Speech/Debate (SPD)

SPD 120
INTERPERSONAL COMMUNICATION (3 CR)

This basic speech course deals with the oral communication process through the study of interpersonal communication. Principles of effective speech communication in one-to-one and small-group relationships are studied and applied in a variety of learning situations. Individualized talks may be given but everyday communication is stressed. 3 hrs./wk.

SPD 121
PUBLIC SPEAKING (3 CR)

This course is designed to meet the needs of people who wish to improve their ability to prepare and deliver effective oral presentations before an audience. This fundamental speech course emphasizes creation of ideas, audience analysis, organization skills and delivery techniques. Students will extemporaneously deliver a variety of speeches, including informative and persuasive types of speeches. 3 hrs./wk.

SPD 125
PERSONAL COMMUNICATION (3 CR)

This course is concerned with the most frequently used human communication skills, interpersonal communication and public speaking. The course demonstrates the natural relationships between communicating one-to-one and in public, showing that skills in one can be employed in the other and giving practice in both. Focus will be communication theory, listening concepts of self, language, perception and types of public speaking, including impromptu, informative and persuasive. 3 hrs./wk.

SPD 128
BUSINESS & PROFESSIONAL SPEECH (3 CR)

Students will improve their verbal communication skills both formally and informally by studying interview techniques, making effective presentations, working in groups, negotiating, studying listening techniques, and recognizing verbal and nonverbal messages. The course is designed for the student presently working in business or planning to pursue a business degree. 3 hrs./wk.

SPD 130
ELEMENTARY DEBATE (3 CR)

This course is designed for those students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Specific skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation will be developed. Students enrolling in this course will be required to participate as members of the intercollegiate debate team and will attend two to eight weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

SPD 132
INTERMEDIATE DEBATE I (3 CR)

Prerequisite: SPD 130 or the equivalent

This course is designed for those students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Specific skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation will be developed. Students enrolling in this course will be required to participate as members of the intercollegiate debate team and will attend two to eight weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

SPD 140
ORAL INTERPRETATION/LITERATURE (3 CR)

The student will develop techniques for effective spoken performance of literature. Using poetry, fiction and non-fiction, students will create literary interpretations and then master both the verbal and nonverbal methods necessary for effective spoken expression of those interpretations. This course includes topics such as selecting literary works for performance, interpretation of literary works, audience analysis and performance. Skills acquired in this course will be essential to actors, broadcast journalists, educators and other public speakers. 3 hrs./wk.

SPD 141
VOICE AND SPEECH (3 CR)

The student will develop techniques to expand breath support, vocal range and dynamics; develop precise articulation; and strengthen the connection between thought and sound. Through the use of exercises to free, develop and strengthen the voice, the student will be better able to communicate the full range of human emotion and all the nuances of thought. Skills acquired in this course are essential for actors, broadcast journalists, educators and other public speakers. 3 hrs./wk.

SPD 180
INTERCULTURAL COMMUNICATIONS (3 CR)

This course utilizes concepts drawn from sociology, psychology, anthropology and communication. Upon successful completion of the course, students will recognize how communication is influenced by culture and how culture is influenced by communication. Students will identify the cultural bases of beliefs, attitudes, values and behaviors. Students will be able to recognize commonalities across cultures, tolerate ambiguity in a variety of situations, develop a more global multicultural perspective, identify and appreciate other cultural orientations, and recognize and assign cultural explanations to specific behaviors. The intercultural communication course is concerned with communication theory. Students will be required to identify the principles and terminology of human communication. With a commitment to perform at your best and actively participate in classroom and outside activities, the competencies listed in the course outline, as well as many others, will be successfully satisfied. 3 hrs/wk.

SPD 230
INTERMEDIATE DEBATE II (3 CR)

Prerequisite: SPD 132 or the equivalent

This course is designed for students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Specific skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation will be developed. Students enrolling in this course will be required to participate as members of the intercollegiate debate team and will attend two to eight weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

SPD 235
ADVANCED DEBATE (3 CR)

Prerequisite: SPD 230 or the equivalent

This course is designed for students interested in participating in competitive intercollegiate debate. Through the course, students will learn debate theory, debate skills and techniques, and methods of becoming successful intercollegiate competitors. Specific skills in research, argument construction, debate format, intercollegiate debate speaking style and refutation will be developed. Students enrolling in this course will be required to participate as members of the intercollegiate debate team and will attend two to eight weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

Surgical Technology (KST)

KST 100

INTRODUCTION TO SURGICAL TECH (2 CR)

Explores historical aspects of surgery, health care facilities, and organizations. Includes the roles, duties, and responsibilities of the surgical team members. Ethical, legal, and moral issues in health care and surgery are addressed. Focuses on effective communication skills, accurate medical terminology, and the impact of transcultural psychosocial outcomes for clients in the surgical setting. 4 hrs. lecture/wk.

KST 102

FUND/OPERATING ROOM TECHNIQUE (11 CR)

Prerequisite: The student must meet the entrance requirements and be accepted into the surgical technology program.

Applies principles of medical and surgical asepsis. Focuses on prepartion of the sterile field,identification of instruments, sutures, supplies and equipment. Emphasis is on basic skills of the surgical technologist in preparation for and during the operative procedure. 6 hrs. lecture, 15 hrs. clinical/wk. Practices maintaining a safe client environment and includes the responsibilities and duties of surgery personnel. Common surgical techniques and procedures.

KST 104

BODY STRUCTURE AND FUNCTION (2 CR)

Prerequisite: Students must meet entrance requirements & must be accepted into the surgical technology program.

Introduces students to the major structures and functions of the human body. Is taught according to body systems. Laboratory time is used to introduce and reinforce class room instruction. 1 hr. lecture, 1 hr. lab/wk.

KST 105

PHARMACOLOGY FOR SURGICAL TECH (2 CR)

Development of knowledge and understanding of the metric, apothecary, household, and linear systems of measurement. The conversion of equivalents from one system to another. Focus is on terminology associated with pharmacology and procedures for safe and accurate handling of medications and solutions. Included is discussion of principles of anesthesia administration, post anesthesia client care, and care in emergencies. 2 hrs. lecture/wk.

KST 106

ASEPTIC TECH FOR SURGICAL TECH (2 CR)

Study of structure, function, and pathogenicity of micro organisms,immune and infectious responses. An emphasis is placed on principles of sterilization, disinfecting, environmental sanitation, and practices that promote optimal healing. 4 hrs. lecture/wk.

KST 109

PRINCIPLES/SURGIAL PROCEDURE I (8 CR)

Focus is on the diagnosis, pathology, and surgical sequence of general surgery, gynecological surgery, genitourinay surgery, and laparoscopic surgery. Included is discussion of post operative care and complications. 4 hrs. lecture, 12 hrs clinical/wk.

KST 110

PRINCIPLES/OF SURGIAL PROCEDII (7 CR)

Focus is on diagnosis, pathology, and surgical sequence of ophthalmological, ENT, head and neck, plastic /reconstructive, and orthopedic surgeries. Included is a discussion of postoperative care and complications. 3 hrs. lecture, 12 hrs. clinical/wk.

KST 111

CAREER DEVELOPMT/SURGICAL TECH (2 CR)

Resume development, interviewing techniques and introduction to the current health care market. Emphasis is on self-evaluation of professional skills and their application to the health care market. 2 hrs./wk.

KST 114

PRINCIPLES/SURGICAL PROCED III (7 CR)

Focus is on diagnosis, pathology and surgical sequence with complex surgical specialties: neurosurgery, cardiovascular and peripheral vascular, thoracic, pediatric, geriatric, trauma and surgery. Included is discussion of postoperative care and complications. 4 hrs. lecture, 9 hrs. clinical/wk.

Theater (THEA)

THEA 120
INTRODUCTION TO THEATER (3 CR)
Students will be introduced to a variety of theatrical experiences, read great plays and see live theater presentations. They also will discuss theater practices, dramatic literature and the history of the theater. Includes 12 required shop hours. 3 hrs./wk.

THEA 123
IMPROVISATION FOR THEATER (2 CR)
Prerequisite: THEA 130
The student will be introduced to theater improvisation, which will emphasize creative stage activities not requiring a written script. Participation in activities of this course will release and enhance the work of serious acting students and show the students how to approach characterization viscerally rather than intellectually, spontaneously rather than intentionally. 2 hrs. lecture/wk.

THEA 130
ACTING I (3 CR)
The fundamentals of acting will be studied in this class. Emphasis will be on discovering and expanding creative potential through exercises in self-awareness, posture, movement, voice and personality projection. Students will complete a minimum of three in-class performances. 3 hrs./wk. plus rehearsals and performances.

THEA 131
VOICE AND SPEECH (3 CR)
The student will develop techniques to expand breath support, vocal range and dynamics; learn precise articulation; and strengthen the connection between thought and sound. Through the use of exercises to free, develop and strengthen the voice, the student will be better able to communicate the full range of human emotion and all the nuances of thought. Skills acquired in this course are essential for actors, broadcast journalists, educators and other public speakers. 3 hrs. lecture/wk.

THEA 133
TECHNICAL PRACTICUM I (1 CR)
Students gain practical experience in technical theater in this course. The student completes the course objectives by working in the theatre department's productions and/or working in the scene/costume shop during the semester. 2 hrs. lab/wk.

THEA 134
PERFORMANCE PRACTICUM I (1 CR)
This course will enable students to gain practical experience in performance-related aspects of college theater productions. Admission may be granted upon being cast in a JCCC production. 2 hrs. lab/wk.

THEA 135
STAGE MAKEUP (2 CR)
An introductory course designed to provide an understanding of, and practical skill in, the design and application of makeup for theatrical performance. 1 hr. lecture, 1 hr. lab/wk.

THEA 136

BASIC COSTUMING (3 CR)

This is a survey of the theory, techniques and skills used in costume creation for the theater and film. Areas of study and practice include basic construction, patterning and cutting; fabrics, design and realization; millinery; craft work; and organization. 2 hrs. lecture, 2 hrs. lab/wk.

THEA 137
MOVEMENT FOR THE STAGE (3 CR)

The student will develop techniques to expand kinesthetic awareness, flexibility, physical freedom and the language of movement. Through the use of exercises to free, develop and strengthen physical vocabulary, the student will be better able to communicate the physical life of a character. Skills acquired in this course will include mime, stage combat, commedia, improvisation and circus techniques. 3 hrs. lecture/wk.

THEA 138
ORAL INTERPRETATION/LITERATURE (3 CR)

The student will develop techniques for effective spoken performance of literature. Using poetry, fiction and nonfiction, students will create literary interpretations and then master both the verbal and nonverbal methods necessary for effective spoken expression of those interpretations. This course includes topics such as selecting literary works for performance, interpretation of literary works, audience analysis and performance. Skills acquired in this course will be essential to actors, broadcast journalists, educators and other public speakers. 3 hrs. lecture/wk.

THEA 140
BASIC STAGECRAFT (3 CR)

This course introduces the general student and theater major to basic stagecraft. Through lectures, in-class demonstrations and hands-on experiences, the student will gain a working and appreciative knowledge of technical theater. The course includes 15 lab hours and attendance at two live theatrical productions. 2 hrs. lecture, 2 hrs. lab/wk.

THEA 145
INTRODUCTION TO THEATER DESIGN (3 CR)

This lecture and studio class introduces the theory and practice of theater design and the graphics and standards of entertainment technology. Emphasis will be on the processes and practices used in designing for the performing arts. Using course-taught computer and hand-based drawing techniques, the student will create a portfolio of his or her work through in-class projects. 2 hrs. lecture, 2 hrs. lab/wk.

THEA 225
READER'S THEATER (3 CR)

Prerequisite: THEA 138

Students will combine acting, interpretation and rhetoric as they analyze and perform poetry, prose and dramatic literature and present public performances. Through the process of reading, studying, investing, rehearsing and performing literary and nonliterary works, the student will learn to pay particular attention to the voice embodied in a given text and the cultural and social context within which that voice speaks. 3 hrs./wk. plus rehearsals.

THEA 230
ACTING II (3 CR)

Prerequisite: THEA 130 and THEA 131

This continuation of Acting I will focus on more in-depth character analysis and development, emphasizing the actor's responsibility in creating the character. 3 hrs./wk. plus rehearsals and performances.

THEA 233
TECHNICAL PRACTICUM II (1 CR)

Prerequisite: THEA 133

Students gain practical experience in technical theater in this course. The student completes the course objectives by working on the theatre department's productions and/or working in the scene/costume shop during the semester. 4 hrs.lab/wk.

THEA 234
PERFORMANCE PRACTICUM II (1 CR)

Prerequisite: THEA 134

This course will enable students to gain further practical experience in the performance-related aspects of college theater productions. Admission may be granted upon being cast in a JCCC production. 2 hrs.lab/wk.

THEA 235
TECHNICAL PRACTICUM III (2 CR)

Prerequisite: Permission of the instructor

Students will gain professional technical theater experience in this course by working as an apprentice for the theater department and an outside professional performing arts agency. While on campus and/or on location, students will build and install a stage and/or scenery as they work alongside theater professionals to execute theatrical productions. 4 hrs. lab/wk.

THEA 240
COSTUMING (1 CR)

A sixteen week course designed to introduce basic techniques in costume design and research; and to provide an overview of the sope and impact of costume as a technical and artistic aspect of theatre and film. 1 hr. lecture, 1 hr. lab/wk.

Veterinary Technology (KSAH)

KSAH 100

INTRO VETERINARY TECHNOLOGY (2 CR)

Orientation to career opportunities available in veterinary technology. Professional ethics, public relations and the psychological adjustment of the student in terms of understanding the need for physical treatment and care of animals. Client relations, vaccination programs, regulatory organizations, receptionist duties, breeds and breed characteristics neutering, puppy care, diets and hospital management. 2 hrs. lecture/wk.

KSAH 101

PRINCIPLES OF ANIMAL SCIENCE I (3 CR)

Principles of handling,housing,and management of animals. Basic dietary and sanitation requirements. Restraint and handling, administrtion of medications, bathing, skin scraping, and basic laboratory tests. Emphasis on animal physiology including the cell, muscle, nervous, respiratory, and cardiovascular systems. Introduction to anesthesia and general animal nursing. 2 hrs. lecture, 2 hrs. lab/wk.

KSAH 108

CLINICAL MATH (1 CR)

The metric system and conversion of units; apothecaries' equivalents and vocabulary; preparation of solutions -- strengths, procedures and computations; and drug administration -- calculating and measuring dosages -- will be covered. 1 hr./wk.

KSAH 110

PRINCIPLES/ANIMAL SCIENCE II (3 CR)

Prerequisite: KSAH 101

Anesthesia and the physiology of the digestive, urinary, endocrine, and reproductive systems. Blood and specimen collection, basic bandaging, and introduction to surgical preparation and radiographic processing. 2 hrs. lecture, 2 hrs. lab/wk.

KSAH 111

SANITATION AND ANIMAL CARE (2 CR)

Introduction to microorganisms, sanitation, disinfectants sterilization, and Zoonotic diseases and public health problems. Introduction to parasitology, vermin control, specimen preservation, instrument identification, cleaning and sterilization, sanitary procedures in patient care.

KSAH 120

CLINICAL PATHOLOGY TECHNIQUES (4 CR)

This introduction to laboratory procedures includes preparation of blood smears, cell identification, fecal analysis and parasitology. Urinalysis and urine sediment evaluation also will be covered. 1 hr. lecture, 6 hrs. lab/wk.

KSAH 200

VETERINARY HOSPITAL TECH I (3 CR)

Prerequisite: KSAH 101 and KSAH 110

Administration of anesthetics and surgical assisting. bandaging, casting, blood transfusions, surgical preparations and postoperative procedures, parenteral fluid administration, and intravenous hookups. Introduction to orthopedics, electrocardiography, bone marrow cytology, and pharmacology.

KSAH 201

CLINICAL PATHOLOGY TECH I (4 CR)

Introduction to laboratory procedures including preparation of blood smears, cell identification, fecal analysis, and parasitology. Urinalysis and urine sediment valuation.

KSAH 202

VETERINARY ANATOMY (5 CR)

Prerequisite: BIOL 101 (Maple Woods) or BIOL 127 and KSAH 101 and 110

Basic principles of anatomy using a systemic approach. Physiology as it relates to anatomy and applicable pathology involving the animal body systems. Comparison of the animal species using the cat for dissection. 3 hrs. lecture, 4 hrs. lab/wk.

KSAH 203

LABORATORY ANIMAL TECHNOLOGY (2 CR)

Prerequisites: KSAH 101, KSAH 110 and KSAH 120

Restraint and handling of laboratory animals and birds. Blood collection, restraint, identification, medicating, anesthesia, and specimen collection. Technical skills for laboratory animal research. 1 hr. lecture, 2 hrs. lab /wk.

KSAH 209

EQUINE MEDICINE AND MANAGEMENT (3 CR)

Breeds and types of horses and their use. A study of conformation as it relates to soundness,horse psychology, fitting, conditioning, first aid,and restraint. Parasites and their control, farm management for safety, nutrition, mare care, breeding, foaling, hoof soundness, equine diseases and their prevention. Laboratory procedures. 2 hrs. lecture, 2 hrs. lab/wk.

KSAH 210

VETERINARY HOSPITAL TECH II (3 CR)

Prerequisite: KSAH 200

Administration of anesthetics, surgical assisting, bandaging, casting, blood transfusions, surgical preparations, and postoperative care. Administration of parenteral fluid and emergency treatments. Introduction to ophthalmology and dermatology. 1 hrs. lecture, 4 hrs. lab/wk.

KSAH 211

CLINICAL PATHOLOGICAL TECH II (5 CR)

Prerequisite: KSAH 201

Theory and performance in hematologic, urinalysis, clinical chemistry and parasitology. Introduction to simple immunologic tests, blood coagulation tests, and bone marrow evaluation. Emphasis on hematology and hemoparasites. 2 hrs. lecture, 6 hrs. lab/wk.

KSAH 212

LARGE ANIMAL TECHNOLOGY (4 CR)

Prerequisites: KSAH 101 and KSAH 110

Techniques necessary to assist the veterinarian in a large animal or mixed practice and in research facilities. Bovine, porcine, ovine, and caprine medicine and management, including restraint, blood collection, medicating and nursing techniques. 2 hrs. lecture, 4 hrs. lab/wk.

KSAH 213

RADIOLOGY/ELECTRONIC PROCEDURE (2 CR)

Intensive study and practice in radiological techniques, radiographic exposure techniques, film processing, contrast radiography, and machine electronics. 1 hr. lecture, 2 hrs. lab/wk.

KSAH 214

VETERINARY TECHNICIAN INTERNSH (6 CR)

Prerequisite: Two semesters of first-year veterinary technology courses.

Supervised intensive clinical study under the direction of a cooperating veterinarian to provide 420 hours of actual work experience. 40 hrs. field study/wk.

Continuing Education Certificate Programs

Continuing education class schedules are available from the continuing education class search open and closed class list.

Adobe Graphics and Design

Associate in Claims

Associate in Commercial Underwriting

Associate in Reinsurance

Associate in Risk Management

Complementary and Alternative Medicine, Certificate in

Gerontology, Certificate in

Intensive English Program

Job Skills Series

Macromedia Web Design, Certificate in

Medical Coding Certification

Office Skills, Certificate in

Property Casualty Underwriter

Spirituality, Health, Healing

Team Development Certificate

Therapeutic Massage Certificate

Adobe Graphics and Design

Receive comprehensive instruction in a vast array of Adobe products. The series provides instruction in: PageMaker Fundamentals, PhotoShop Fundamentals, PhotoShop Advanced, PhotoShop Web Production, GoLive Fundamentals and Intermediate, InDesign Fundamentals and Intermediate, Acrobat Fundamentals, and Illustrator Fundamentals and Intermediate. 91 classroom hours.

Required Courses:

```
XCM 1584   Adobe Graphics and Design Series
XCM 4000   Adobe PhotoShop Fundamentals
XCM 4002   Adobe PhotoShop Advanced
XCM 4001   Adobe PhotoShop Web Production
XCM 1586   Adobe GoLive Fundamentals
XCM 1587   Adobe GoLive Intermediate
XCM 1588   Adobe InDesign Fundamentals
XCM 1589   Adobe InDesign Intermediate
XCM 5100   Adobe PageMaker Fundamentals
XCM 1585   Adobe Acrobat Fundamentals
XCM 4100   Adobe Illustrator Fundamentals
XCM 4102   Adobe Illustrator Advanced
```

Associate in Claims

Claims professionals handle a wide variety of claims including property, auto workers compensation, and bodily injury claims. Earning the AIC designation can improve your technical claim-handling abilities as well as your communication and negotiation skills. You can take the standard multiline emphasis or choose among four alternative paths to suit your career needs. You must take all four exams in order to receive the designation.

Required Courses:

```
XNI 1100   The Claims Environment
XNI 1115   Workers Compensation and Managing Bodily
           Injury Claims
XNI 1120   Property Loss Adjusting
XNI 1125   Liability Claim Practices
```

Associate in Commercial Underwriting

The AU designation program will complement the underwriting skills you have learned on the job. You will also learn processes to guide you in writing accounts and considering coverage questions. You must take all three exams to earn the designation.

Required Courses:

```
XNI 1330   Commercial Underwriting:Principles/Property
XNI 1335   Commercial Underwriting: Liability and
           Advanced Techniques
XNI 1050   Commercial Insurance
```

Associate in Reinsurance

The ARe designation will enhance your understanding of reinsurance terms and pricing, reinsurance treaties, and facultative certificates. You will also develop the necessary skills to design a reinsurance program. You must take the following four tests to earn an ARe designation.

Required Courses:

```
XNI 1145   Principles of Reinsurance
XNI 1150   Reinsurance Practices
XNI 6027   Insurance Operations and Regulations
XNI 2080   Business and Financial Analysis for Risk
           Management and Insurance Professionals
```

Associate in Risk Management

By earning the ARM designation, you will greatly enhance your understanding of the risk management process, from analysis to implementation and monitoring. The information you learn is practical, and you will be able to apply it immediately to your daily risk management responsibilities. To earn your designation there are three national tests. For more information on the program and testing, please visit the Insurance Institute of America Web site at www.aicpcu.org.

Required Courses:

```
XNI 1300   ARM 54 Essentials of Risk Management
XNI 1305   ARM 55 Essentials of Risk Control
XNI 1320   ARM 56 Risk Financing
```

Complementary and Alternative Medicine, Certificate in

The certificate in complementary and alternative medicine is designed to provide a multidisciplinary educational experience. Those wishing to become knowledgeable, skilled and committed health care professionals in the field of complementary and alternative medicine should achieve certification.

- The program requires 27 contact hours.

- Students must register with JCCC and then complete the online orientation at www.ed2go.com/jccc.
- ALLEGRA Learning Solutions, LLC, is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation.
- The program meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences.
- The program is provider approved by the California Board of Registered Nursing, Provider #CEP12385, for the stated number of contact hours.
- **The certificate program must be completed within six weeks of the start date.**

This certificate consists of the following eight courses.

Required Courses:

```
XNH 1685  Introduction to Complementary and
          Alternative Medicine
XNH 1655  Introduction to Spirituality, Health and Healing
XNH 1635  Cultural Competence in Health Care
XNH 1665  Healing Environments
XNH 1690  Bodywork Healing Therapies
XNH 1695  Chinese Medicine
XNH 1675  Healing Therapeutic Interventions
XNH 1700  Ayurvedic Medicine
```

Gerontology, Certificate in

Offered completely online, the certificate in gerontology represents a specialization in the field of gerontology. Divided into individual courses, the program provides 26 hours of instruction designed to enhance the knowledge and skills of individuals who work with adults by providing an educational experience that is multidisciplinary in nature.

- Students must register with JCCC and then complete the online orientation at www.ed2go.com/jccc.
- The program is accredited through ALLEGRA Learning Solutions, LLC, an accredited provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation.
- This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences.
- The program is provider approved by the California Board of Registered Nursing, Provider #CEP 12385, for the stated number of contact hours.
- **The certificate program must be completed within six weeks of the start date.**

The four core courses:
Introduction to Gerontology
Physiology of Aging
Mental Health and Aging
Healthy Aging
Elective Courses (complete any four):
Spirituality and Aging
Pain Assessment and Management in the Older Adult
Death and Dying
Sleep and Aging

The Older Woman
Elder Abuse

Required Courses:

```
XNH 1705  Introduction to Gerontology
XNH 1595  Physiology of Aging
XNH 1585  Mental Health and Aging
XNH 1590  Healthy Aging
XNH 1605  Spirituality and Aging
XNH 1625  Pain Assessment
XNH 1610  Death and Dying
XNH 1600  Sleep and Aging
XNH 1620  Older Woman
XNH 1615  Elder Abuse
```

Intensive English Program

The intensive English program offers preacademic English language study for non-native English language students who wish to improve and strengthen their academic English proficiency in order to obtain a degree at a U.S. college or university. While students who have personal or career enhancement language needs may benefit from the classes, the classes are not designed to help students who need English for personal or career enhancement reasons.

Curriculum and activities include:

- Introductory, beginning, intermediate and advanced-level listening, speaking, conversation, pronunciation, reading, writing, grammar and vocabulary skills courses.
- A minimum of 20 hours of instruction a week for full-time students during the fall and spring.

Required Courses:

```
XGI 1400  Introductory Reading
XGI 1410  Beginning Reading
XGI 1420  Low Intermediate Reading
XGI 1630  High Intermediate Reading and Writing
XGI 1640  Advanced Reading, Writing and Research
XGI 1700  Introductory Writing and Grammar
XGI 1710  Beginning Writing and Grammar
XGI 1720  Low Intermediate Writing and Grammar
XGI 1200  Introductory Grammar
XGI 1210  Beginning Grammar
XGI 1220  Low Intermediate Grammar
XGI 1230  High Intermediate Grammar
XGI 1245  Advanced Grammar Workshop
XGI 1100  Introductory Listening and Speaking
XGI 1110  Beginning Listening and Speaking
XGI 1120  Low Intermediate Listening and Speaking
XGI 1130  High Intermediate Listening and Speaking
XGI 1035  Advanced Learning Strategies
```

(Electives:)

```
XGI 1020  American Idioms and Slang
XGI 1030  Learning and Test-Taking Strategies
XGI 1040  Beginning and Intermediate Pronunciation
XGI 1041  High Intermediate and Advanced Pronunciation
XGI 1060  Online Business/Technical Writing for ESL Learning
XGI 1065  Medical English for Nurses
XGI 1080  American Culture
```

```
XGI 1090   Computer Training
XGI 1092   Web Development
XGI 1093   Mixed Media Research
XGI 1094   Keyboarding, Email and Internet
XGI 1095   Conversation and Current Events
XGI 1150   Presentation and Notetaking Skills
XGI 1670   Writing Support Course for Intro to Writing
XGI 1680   Reading Support Course for Rdg Strategies
```

Job Skills Series

Enhance your skills with the job skills series.

- Improve your computer abilities and let potential employers know you have the skills they need with classes in Windows XP, Word Fundamentals, Excel Fundamentals, Outlook and PowerPoint Fundamentals.
- Learn how to present your best possible image with instruction in Building Your Resume, Searching and Applying for that Perfect Job and Interviewing - Helping You Succeed in Job Seeking.

Required Courses:

```
XCM 1601   Job Skills
XCM 1450   Windows Introduction
XCM 3405   Excel Fundamentals
XCM 2305   Word Fundamentals
XCM 9400   Outlook
XCM 5505   PowerPoint Fundamentals
XBD 0161   Building Your Resume
XBD 0162   Searching and Applying for that Perfect Job
XBD 0163   Interviewing-Helping you Success in Job Seeking
```

Macromedia Web Design, Certificate in

The macromedia Web development and design series

- covers the Macromedia suite of applications including Dreamweaver Fundamentals and Advanced, Fireworks Fundamentals and Advanced, and Flash Fundamentals and Intermediate.
- includes instruction in HTML and Web page design.
- prerequisites include experience with Windows, keyboard, mouse, Internet terms and navigation.
- consists of 91 classroom hours.

Required Courses:

```
XCM 1605   Macromedia Web Development and Design
XCM 9540   HTML and Web Page Design
XCM 9465   Dreamweaver Fundamentals
XCM 9466   Dreamweaver Advanced
XCM 4150   Fireworks Fundamentals
XCM 4151   Fireworks Advanced
XCM 9470   Flash Fundamentals
XCM 9471   Flash Intermediate
XCM 9469   Dreamweaver Databases
```

Medical Coding Certification

Medical coding certification is

- designed for medical office professionals.
- a 16-week program offered each fall and spring.

Individuals who complete the course may choose to apply to sit for the national certification examination offered by the American Academy of Professional Coders. The exam application is made individually. Course completion does not quarantee you will pass the examination.

This comprehensive course is based on the Professional Medical Coding Student Workbook with information on medical terminology, anatomy and coding issues related to CPT and ICD-9-CM coding. Copies of the current CPT, ICD-9-CM and HCPCS are the required textbooks.

Required Courses:

```
Prerequisite Courses (must take one or have equivalent):

XNH 1550  Medical Terminology
XNC 2413  Demystifying Medical Terminology

Additional Required Course:

XNC 2430  Medical Coding Certification
```

Office Skills, Certificate in

The office skills-office solutions series.

- is designed to improve your office skills in MS Office applications Word, Excel, Outlook, PowerPoint and FrontPage.
- improves keyboarding and typing skills.
- is an eight-week program.
- includes an introduction to personal computers and Windows operating systems.
- consists of 105 classroom hours.

Required Courses:

```
XCM 1600  Office Skills-Office Solutions
XCM 1200  Introduction to the Personal Computer
XCM 1700  Keyboarding Fundamentals
XCM 1450  Windows Introduction
XCM 1455  Windows Advanced
XCM 8101  Introduction to the Internet
XCM 3405  Excel Fundamentals
XCM 2305  Word Fundamentals
XCM 3406  Excel Intermediate
XCM 2306  Word Intermediate
XCM 9450  FrontPage Fundamentals
XCM 9400  Outlook
XCM 5505  PowerPoint Fundamentals
```

Property Casualty Underwriter

The chartered property casualty underwriter curriculum meets the needs of today's risk management and insurance professionals while maintaining the integrity of the industry's most respected professional designation. You will gain a broad understanding of property-casualty insurance, including in-depth coverage of personal financial planning and financial services.

- Courses can be taken in any sequence, but starting with CPCU 510 or CPCU 520 is recommended.
- The CPCU designation is earned after passing the eight national exams.

```
XNI 2010   CPCU 510 Foundations of Risk Management,
           Insurance and Professionalism
XNI 2080   CPCU 540 Accounting and Finance
XNI 6028   CPCU 530 The Legal Environment
XNI 6027   CPCU 520 Insurance Operations and Regulation
XNI 6029   CPCU 551 Commercial Property Risk Management
           and Insurance
XNI 6030   CPCU 552 Commercial Liability Risk Management,
           Insurance and Financial Planning
XNI 6031   CPCU 553 Survey of Personal Risk Management,
           Insurance and Financial Planning
XNI 6032   CPCU 555 Personal Risk Management and
           Property-Liability Insurance
XNI 6033   CPCU 556 Personal Financial Planning
XNI 6034   CPCU 557 Survey of Commercial Risk Management
           and Insurance
```

Spirituality, Health, Healing

The certificate in spirituality, health and healing presents a broad understanding of spirituality, health and healing. Health care professionals will stay current with emerging trends.

- The program requires 21 contact hours.
- Students must register with JCCC and then complete the online orientation at www.ed2go.com/jccc.
- ALLEGRA Learning Solutions, LLC, is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation.
- This course meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences.
- The program is provider approved by the California Board of Registered Nursing, Provider #CEP 12385, for the stated number of contact hours.
- **The certificate program must be completed within six weeks of the start date.**

This certificate program consists of the following seven courses.

Required Courses:

```
XNH 1655   Introduction to Spirituality, Health and Healing
XNH 1640   Spirituality, Religion, Culture and Health
XNH 1660   Spiritual Care
XNH 1665   Healing Environments
XNH 1670   Spirituality, the Dying Experience, and Grief
XNH 1675   Healing Therapeutic Interventions
XNH 1605   Spirituality and Aging
```

Team Development Certificate

You'll learn the tools and practical applications needed to develop a team.
Requirements:
· This program consists of the completion of four core courses and two electives.
· The six core courses will be offered in the spring, summer and fall.
· You select four of the six core courses.
· Electives will be offered at least twice a year.
· You have two years to complete this certificate program.

Core Courses:

```
XDM 0541  Facilitating Change in Teams
XDM 0525  Team Facilitation
XDM 0530  Team Leadership Development
XDM 0528  Increasing Team Performance
XDM 0550  Maximizing Team Diversity
XDM 0542  Managing Team Conflict


Electives:

XBZ 0436  Coaching: Bringing Out the Best in Others
XBZ 0434  Giving and Receiving Constructive Feedback
XBZ 0447  Giving Recognition
XBZ 0539  Increased Personal Productivity
XBZ 0433  Influencing for Win-Win Outcomes
XBZ 0439  Moving from Conflict to Collaboration
XBD 0160  Negotiating for Win-Win Situations
XBZ 0443  Personal Strategies for Navigating Change
XBZ 0432  Proactive Listening
XDM 0537  Problem Solving
```

Therapeutic Massage Certificate

This program meets the 500-hour massage therapist II licensure requirement set by the city of Overland Park, Kan. ordinances.

- 365 hours of hands-on bodywork consisting of basic and advanced techniques, body mechanics, sports and chair massage, craniosacral balancing, reflexology, and aromatherapy.
- 52 hours of business practice, professional ethics, hygiene and massage law.
- Prerequisite, Human Anatomy and Physiology, totals 100 hours (as a five-college-credits course).

Required Courses:

```
Prerequisite Course:

BIOL 144  Anatomy and Physiology.............................5


Courses:

XNM 5000  Introduction to Bodywork (Module I)
XNM 5010  Kinesiology
XNM 5050  Pathology
XNM 5021  First Aid/CPR
XNM 5075  Professional Business Practices I
XNM 5030  Communicable Diseases
XNM 5040  Clinical Bodywork (Module II)
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XNM 5060   Hydroptherapy
XNM 5091   Bodywork Clinics I
XNM 5070   Clinical Bodywork (Module II)
XNM 5080   Professional Business Practices II
XNM 5092   Bodywork Clinics II
```

Continuing Education Course Descriptions

- A -

Applied Business Skills (XBD)

- C -

Computer Training (XCM)

- H -

Health Care Professions (XNC)
Health Prof Independent Study (XNH)

- I -

Insurance (XNI)
Intensive English (XGI)

- M -

Management Development (XDM)
Massage Therapy (XNM)

Applied Business Skills (XBD)

Computer Training (XCM)

XCM 1200

PC Intro
New to computers? In this course, learn about the physical components of computers and take a brief tour of Windows. Hard drives, floppy disks, CD-ROMs, RAM, monitors, modems and other hardware, and computer terminology will be discussed.
$109.00

XCM 1450

Windows Intro
Get started with Windows XP, and take control of your computer. The best way to become comfortable working with your computer is to learn about the Operating System (OS). Explore the basics as you do just that in this introductory-level class.
$119.00

XCM 1455

Windows Advanced
Customize Windows and improve your productivity. Work with advanced file features, print management, multiple users, system utilities, and networking

features. Prerequisite: Windows Introduction.

$129.00

XCM 1584

Adobe Graphics & Design Series

Receive comprehensive instruction in a vast array of Adobe products. The series provides instruction in: PageMaker Fundamentals, Photoshop Fundamentals, Photoshop Advanced, Photoshop Web Production, GoLive Fundamentals, and Intermediate, InDesign Fundamentals and Intermediate, Acrobat Fundamentals, and Illustrator Fundamentals and Intermediate. For specific information, see individual class descriptions. Prerequisites: Experience with Windows, keyboard, mouse and application navigation.

$1,750.00

XCM 1585

Adobe Acrobat Fundamentals

Explore the Acrobat 5.0 work environment and practice creating and manipulating Portable Document Format (PDF) files. Topics covered include how to create a PDF file, how to modify a PDF file by adding navigation to it, how to add sound and movie clips to a PDF file, how to annotate (add additional comments to) a PDF file, how to create PDF forms, how to create an index of PDF documents, how to add security to PDF documents, and how to distribute PDFs. Prerequisite: Ability to work with Windows, keyboard and mouse.

$179.00

XCM 1586

Adobe Golive Fundamentals

Explore the basics of Adobe GoLive 6.0 Web development application. The course maps to the Adobe Certified Expert (ACE) GoLive 6.0 exam. You will navigate in the GoLive work environment; create a basic Web page; design a site; work with text, links, images, tables, forms and frames; and finish by exporting a website to a folder on a hard disk. Prerequisites: HTML and Web Page Design.

$179.00

XCM 1587

Adobe Golive Intermediate

Receive instruction in the advanced concepts of GoLive 6.0. The course maps to the Adobe Certified Expert (ACE) GoLive 6.0 exam. Work with library items, components and smart objects, rollovers, navigation bars, and style sheets. Define head elements, create floating boxes, use timelines and add multimedia to a site. Prerequisite: Adobe GoLive Fundamentals.

$179.00

XCM 1588

Adobe Indesign Fundamentals

Adobe InDesign 2.0 is a robust and easy-to-use design and layout program. This course maps to the Adobe Certified Expert (ACE) InDesign 2.0 exam. With InDesign, you can create many types of documents, from single page advertisements and fliers to complex multi-page color publications. In this course, you will explore the basics of creating documents with InDesign. Prerequisites: Experience with Windows, keyboard, mouse and application navigation.

$179.00

XCM 1589

Adobe Indesign Intermediate

Receive instruction in the advanced concepts of InDesign 2.0. This course maps to the Adobe Certified Expert (ACE) InDesign 2.0 exam. Learn about manipulating text, pictures and pages. Employ methods for formatting text efficiently, for creating and editing graphics with Adobe InDesign, and for making and modifying layouts quickly. Prerequisites: Adobe InDesign Fundamentals.

$179.00

XCM 1600

Office Skills/Solutions Series

Ready to reenter the workforce or wanting to improve your office skills? Take eight weeks and receive thorough instruction in these MS Office Applications: Word, Excel, Outlook, PowerPoint, FrontPage and Keyboarding to improve typing skills. Plus, receive an introduction to the personal computer and Windows operating system.

$1,300.00

XCM 1601

Job Skills Series

Enter the job market fully prepared. Receive computer instruction in Windows XP, Word Fundamentals, Excel Fundamentals, Outlook and PowerPoint Fundamentals to improve your computer abilities and let potential employers know you have the skills they need. When seeking a job, marketing starts with you. You will receive instruction in the following courses: Building Your Resume, Searching and Applying for that Perfect Job, andInterviewing-Helping You Secceed in this Critical Stage of Job Seeking. These courses will help you learn how to present your best possible image.

$750.00

XCM 1605

Macromed Web Develp/Design Ser

Immerse yourself in the Macromedia suite of applications. Receive complete instruction in HTML and Web Page Design, Dreamweaver Fundamentals, Dreamweaver Advanced, Fireworks Fundamentals, Fireworks Advanced, Flash Fundamentals, Flash Intermediate. Prerequisite: experience with Windows, keyboard, mouse, internet terms and navigation.

$1,600.00

XCM 1700

Keyboarding Fundamentals

Learn keyboarding skills or improve your current skill level. The flexible format is designed to improve skill, speed and accuracy. Immediate feedback on typing speed and accuracy is provided with each lesson. IBM-compatible software and practice exercises are provided for the student to take home.

$149.00

XCM 2305

Word Fundamentals

Explore the Word interface and document creation. Work with text, formatting, tables, page layout and proofing tools. Prerequisite: Knowledge of Windows, keyboard and mouse. Typing skills recommended.

$139.00

XCM 2306

Word Intermediate

Explore page layout and table formatting. Work with imported data, styles, headers and footers, graphics, templates, and collaboration tools. Prerequisite: Word Fundamentals.

$149.00

XCM 3405

Excel Fundamentals

Explore spreadsheet concepts and the Excel interface. Work with data entry and editing, worksheet modifications, functions, formatting, and charts. Prerequisite: Knowledge of Windows, keyboard and mouse.

$149.00

XCM 3406

Excel Intermediate

Explore worksheet and workbook options. Customize Excel, work with advanced charting, formatting, list management and templates. Prerequisite: Excel Fundamentals.

$159.00

XCM 4000

Adobe Photoshop Fund

Work in the Photoshop environment, size images, select image areas, manipulate selections, use image modes, select colors, paint in color, use layers, adjust images and save completed images. Prerequisite: Experience with Windows, keyboard and mouse.

$259.00

XCM 4001

Adobe Photoshop Web Prod

Learn concepts and techniques for optimizing images for display on the Internet. Explore basic concepts regarding image resolution and methods for reducing file size, graphic formats that are appropriate for Web images, and how to choose the best one for various types of images. Use ImageReady to create animations. Prerequisite: Photoshop Fundamentals or equivalent knowledge.

$179.00

XCM 4002

Adobe Photoshop Advanced

Discover additional Photoshop commands and tools and study concepts that tie together multiple techniques for greater efficiency. Work to clean up line art, use shortcuts and styling techniques for layers, repair a damaged picture, soften focus, and colorize grayscale images using a variety of techniques. Learn to create realistic three-dimensional effects by distorting layers and using lighting effects. Prerequisite: Photoshop Fundamentals or equivalent knowledge.

$179.00

XCM 4100

Adobe Illustrator Fund

Establish a firm foundation in Illustrator by mastering the primary tools and techniques necessary to create complex and attractive illustrations and text effects. Use Illustrator's foundational tools and techniques to create artwork and illustrations that can be used in printed materials or for distribution on the World Wide Web. Prerequisite: Basic knowledge of the Windows operating system.

$179.00

XCM 4102

Adobe Illustrator Adv

Create dynamic graphics using advanced drawing and editing tools, path editing techniques, filter effects, and masks. Explore the Transparency palette, live effects, and the Appearance palette to create effects unattainable in previous versions. Use many of Illustrator's powerful editing tools and techniques to efficiently create dynamic graphics. Prerequisite: Illustrator Fundamentals or equivalent knowledge.

$179.00

XCM 4150

Fireworks Fundamentals

Use Macromedia Fireworks 4.0 to create vector graphics, edit bitmap graphics, optimize images, and create and assign rollover effects for the Web. Prerequisite: experience with Windows, keyboard and mouse.

$189.00

XCM 4151

Fireworks Advanced

A hands-on class teaching powerful techniques for creating and editing Web graphics and pages. Learn advanced skills for working with vector graphics, photographic images and effects; slicing and rollovers; symbols and animation; and exporting to HTML. Prerequisite: Fireworks Fundamentals.

$269.00

XCM 5100

Adobe PageMaker Fund

Explore the basics of PageMaker and discover techniques for creating brochures and newsletters, such as inserting text and graphics and working with column guides. Prerequisite: Experience with Windows, keyboard and mouse.

$259.00

XCM 5505

PowerPoint Fundamentals

Explore the PowerPoint interface and basic presentation development. Work with formatting, drawing tools, graphics, tables and charts. Discover how to enhance presentations and delivery methods. Prerequisite: Knowledge of Windows, keyboard and mouse.

$149.00

XCM 8101

Introduction to the Internet

Explore the basic concepts, technologies and resources of the Internet and World Wide Web. Learn how the Internet works, how to search the Internet and how to use other Internet resources such as e-mail and newsgroups. Prerequisite: Experience with Windows, keyboard and mouse.

$149.00

XCM 9400

Outlook

More than just an e-mail program, Outlook is a complete organizational tool and contact management utility. Work with e-mail, contacts, tasks, and calendar features. Prerequisite: Knowledge of Windows, keyboard and mouse. Familiarity with the Internet and e-mail recommended.

$149.00

XCM 9450

FrontPage Fundamentals

Explore the FrontPage interface and basic web page design. Work with themes, hyperlinks, graphics, tables and frames. Learn how to publish and manage your web pages. Prerequisite: Knowledge of Windows, keyboard and mouse.

$259.00

XCM 9465

Dreamweaver Fundamentals

Discover the basics of Dreamweaver. Create a basic Web page, design a site, work with text and images, add links, use tables and frames, upload a site, and create a form. Prerequisite: Introduction to Windows, HTML and Web Page Design or equivalent knowledge.

$269.00

XCM 9466

Dreamweaver Advanced

Work efficiently in Dreamweaver using libraries and layers. Use stylesheets to gain increased control over Web site appearance. Create rollovers, work with behaviors to control dynamic page content, work with layers to gain precise layout control of page elements, and use timelines to sequence events on a page and ensure compatibility with multiple browser versions using browser targeting. Prerequisite: HTML and Web Page Design, Dreamweaver Fundamentals or equivalent knowledge.

$269.00

XCM 9469

Dreamweaver Databases

Create database-driven websites with Dreamweaver MX. Work with recordsets, dynamic forms and HTML elements. Create detail, search and results pages. Explore how to administer database records. Prerequisite: Dreamweaver Advanced.

$189.00

XCM 9470

Flash Fundamentals

Use Flash to build animations for the Web or as stand-alone files. Work with drawing tools, manipulate objects on the Stage, utilize object interaction, import artwork, create and format text, and perform frame-by-frame and tweened animations. Prerequisite: HTML and Web Page Design, Dreamweaver Fundamentals or equivalent knowledge.

$189.00

XCM 9471

Flash Intermediate

Develop Flash movies, interactive Web applications and dynamic applications ranging from e-commerce shopping carts to video games. Create animated sequences, implement the three types of symbols and instances as a development shortcut, use ActionScript, add sound to Flash movies, apply Advanced ActionScript techniques, and use the testing environment to optimize creations. Prerequisite: HTML and Web Page Design, Dreamweaver Fundamentals, Flash Fundamentals or equivalent knowledge.

$269.00

XCM 9540

HTML & Web Page Design

Examine the basic concepts of Hypertext Markup Language (HTML), write source code, place text on the page, format text, and create headings and horizontal rule lines. Display lists, color Web pages, use graphics, add hypertext links and create graphic hyperlinks. Prerequisite: Introduction to the Internet and Introduction to Windows; experience with Windows, keyboard and mouse; or equivalent knowledge.

$289.00

Health Care Professions (XNC)

XNC 2413

Antibiotic Resistant Bacteria

Bacteria Explore past, present and future trends of antibiotic resistant bacteria, including the impact of this phenomenon on patient care, patient outcomes and the health care economy. RNs and LPNs will earn 3 contact hours for attending this workshop. Kansas ACHAs will earn 3 (RC) hours. Approval is pending for other health professionals.

$27.00

XNC 2430

Medical Coding Certification

Study medical coding using the latest curriculum approved by the American Academy of Professional Coders (AAPC). Individuals who complete the course may sit for the national AAPC exam. Course completion does not guarantee passing the exam. There is an additional fee for the exam.

$899.00

Health Prof Independent Study (XNH)

XNH 1550

Medical Terminology

Learn medical terminology according to each body system. Multiple graphics, study tips and unusual facts make for a most enjoyable course.

$74.00

XNH 1585

Mental Health & Aging

This course will provide health care professionals with an overview of mental health and aging. It will discuss the most commonly occurring mental health problems experienced by older adults. Participants will earn 3 contact hours.

$29.00

XNH 1590

Healthy Aging

Presents healthy aging as it relates to numerous issues: cultural similarities and differences, complementary/alternative medicine, nutritional concerns and fall prevention. Participants will earn 3 contact hours.

$29.00

XNH 1595

Physiology of Aging

This course defines aging, reviews the theories of aging and examines the physical changes in body systems associated with aging. Participants will earn 3 contact hours.

$29.00

XNH 1600

Sleep & Aging

Older adults experience many sleep-related changes that can affect their physical and psychological well-being. Information about normal sleep and sleep disorders in aging is presented. Participants will earn 3 contact hours.

$29.00

XNH 1605

Spirituality & Aging

Explore the role of spirituality for the older adult. Issues such as guidance and comfort in spiritual and religious beliefs will be examined. Participants will earn 3 contact hours.

$29.00

XNH 1610

Death & Dying

This course provides the health care professional with an understanding of the psychological, physical, social and spiritual aspects of death and dying for older adults. Participants will earn 3 contact hours.

$29.00

XNH 1615

Elder Abuse

This course examines causes and types of elder abuse, professional responsibilities in cases of suspected abuse, and action steps to prevention. Participants will earn 3 contact hours.

$29.00

XNH 1620

The Older Woman

Unique economic, social and health challenges face older women in America. Examine issues and approaches available to the older woman. Participants will earn 3 contact hours.

$29.00

XNH 1625

Pain Assess & Older Adult

Improve management of pain in the older adult, beginning with proper assessment. Cultural issues and treatment options will be examined. Participants will earn 3 contact hours.

$29.00

XNH 1635

Cultural Competence in H.C.

Learn about different cultural values and belief systems, and incorporate new treatment strategies into your practice. Participants will earn 3 contact hours.

$29.00

XNH 1640

Spirituality, Religion, Health

One's spirituality, religion, culture and health are connected. Religious belief systems, language, health and healthcare systems will be examined for major cultural groups. Participants will earn 3 contact hours.

$29.00

XNH 1655

Intro Spirit, Health & Healing

This course provides an exploration of the many forms and expressions of spirituality and its relationship with health and healing. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

XNH 1660

Spiritual Care

This course provides an examination of the components of spiritual care, including assessment, planning, intervention, and evaluation. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

XNH 1665

Healing Environments

This course will teach you how to create spaces that support and enhance the healing process. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at

www.ed2go.com/jccc.

$29.00

XNH 1670

Spirituality, Dying and Grief

This course provides an exploration of the spiritual aspects of death, dying and grief. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTS and/or LCSWs as as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

XNH 1675

Healing Therapy Interventions

This course will explore the therapeutic benefits, effects and interventions of music, art, dance, humor and animals. ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

XNH 1685

Intro Comp & Alt Medicine

Gain a better understanding of alternative healing philosophies, systems, and practices. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

XNH 1690

Bodywork Healing Therapies

An exploration of somatic, musculoskeletel, point, meridian-based, energy-based, manipulative, and other bodywork therapies. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

XNH 1695

Chinese Medicine

An overview of the oldest professional continuously practiced medicine in the world. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTS and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

XNH 1700

Ayurvedic Medicine

Explore the principles of Ayurvedic medicine, which focuses on achieving balance both within the body and within its environment. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 3 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc,

$29.00

XNH 1705

Introduction to Gerontology

Provides a broad overview of the field of gerontology and and discusses the characteristics of older adults, the sociology of aging, theories of aging, stereotypes and ageism, physiological and psychological changes of aging, mental health, wellness and aging, and complementary and alternative health care methods that may benefit the older adult. Accreditation: ALLEGRA Learning Solutions, LLC is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Participants will earn 5 contact hours for completing this course. This program also meets the qualifications for the stated hours of continuing education credit for MFTs and/or LCSWs as required by the California Board of Behavioral Sciences. Note: Students must register with JCCC then complete the online orientation at www.ed2go.com/jccc.

$29.00

Insurance (XNI)

XNI 1050

INS 23 Commercial Insurance

This course will cover commercial coverages including property, business income, inland and ocean marine, crime, boiler and machinery, general liability, auto, workers compensation, business owners, as well as miscellaneous commercial coverages.

$155.00

XNI 1100

AIC 33 Claims Environment

You will learn how the claim representative's role is simultaneously determined by policyholders and other customers, the insurance policy, the insurance company and its management and the law.

$145.00

XNI 1115

AIC 34 Workers Compensation

This course will cover the important factors of the workers' compensation system to workers and to employers as well as the central role of claim settlements in that system. You will learn to analyze compenhensibility and benefits in given situations, evaluate the medical aspects of given injury claims and appreciate the importance of medical knowledge and education.

$145.00

XNI 1120

AIC 35 Property Loss Adjusting

You will learn about all the significant aspects of property loss claims, other than auto. You will understand the important role that insurance policy language plays

in determining the rights and duties of policyholders and insurers and how it shapes and guides the investigation and adjustment of first-party losses.

$145.00

XNI 1125

AIC 36 Liability Claims Adjust

The legal liability in given situations by organizing an appropriate investigation and how to apply the appropriate law will be covered. You will be able to evaluate damages for bodily injury, claims and effectively settle a third-party claim.

$145.00

XNI 1145

Are 141 Principles Reinsurance

A description is not available for this course.

$125.00

XNI 1150

Are 142 Reinsurance Practices

A description is not available for this course.

$125.00

XNI 1300

ARM 54 Risk Management

This course will help you understand the nature and purpose of risk management for both accidental and business risks, identify and analyze risks facing individuals and organizations, examine and apply alternative risk management techniques and develop decision rules for choosing risk management techniques.

$145.00

XNI 1305

ARM 55

Students who successfully complete ARM 55 should be able to: (1) understand the importance of both accidental and business risks of risk control in risk management; (2) develop specific applications of risk control techniques to particular loss exposures; (3) apply decision rules for choosing risk control techniques; (4) implement chosen risk control techniques in specific situations; and (5) monitor the effectiveness of chosen risk control techniques and adapt them to changing circumstances. Further development and application of the guidelines for selecting risk management techniques introduced in ARM 54, especially in relation to the final steps of the risk management process, are included.

$145.00

XNI 1330

AU 65 Commercial Underwriting

You will learn about all aspects of commercial principles and properties such as fundamental, developing underwriting information, financial analysis, pricing, underwriting direct exposures, construction, occupancy, protection and external exposures, indirect loss underwriting and commercial crime insurance. The text may be ordered by logging on to www.aicpcu.org.

$145.00

XNI 1335

AU 66

A description is not available for this course.

$125.00

XNI 2010

CPCU 510 Foundations of Risk M

Professionalism. CPCU 510 is the foundation for the CPCU curriculum. It examines the American Institute Code of Professional Ethics and analyzing insurance from the perspective of its evolutionary roots, its role as a risk management tool, its function as a regulated business and its unique nature as a legal contract. It emphasizes the skills necessary to read, analyze and interpret property and liability insurance contracts. There are 16 weekly assignments.

$175.00

XNI 2080

CPCU 540 Accounting & Finance

This course will examine the basic accounting and finance principles applicable to any organization and the statutory accounting requirements for property and liability insurance companies. Sixteen weekly assignments.

$175.00

XNI 6027

CPCU 520 INS. Operations & Reg

You will learn all aspects of insurance operations and regulations, which included distribution systems, underwriting (property, liability & package), loss control & premium auditing, reinsurance, ratemaking, financial management, and claims adjusting. Taking this course prepares you for the CPCU 520 exam.

$175.00

XNI 6028

CPCU 530 the Legal Environment

You will learn all aspects of the insurance legal system such as criminal law & international torts, negligence, product & professional liability, contracts, real property, credit & bankruptcy, principal & agent, employment law, business entities, corporate management & shareholder rights and consumer protection. This course prepares you to take the test in December.

$175.00

XNI 6029

CPCU 551 Comml Prop. Risk Mgmt

You will learn all aspects of commercial property risk and insurance such as building & personal property coverage, cases of loss forms, flood, earthquake & specialty forms, business income, inland marine & ocean cargo, crime, equipment breakdown business owners & farm owners, and surety bonds. This course prepares you to take the test in December.

$175.00

XNI 6030

CPCU 552 Comml. Risk Mgmt

Insurance You will learn about Liability Loss Exposures, Risk Control, CGL, Business Auto, Garage and Motor Carrier, Workers Compensation and Employers Liability, Professional Liability, Enviornmental Insurance, Aviation, Marine, Excess and Umbrella Liability, and Advanced Risk Management Techniques. This course prepares you for the national CPCU 552 exam.

$175.00

XNI 6031

CPCU 553 Financial Planning

You will learn about the survey of personal risk management, insurance, and financial planning which includes auto insurance, personal auto policy, homeowners insurance, residential insurance, personal financial planning, life, health and disability insurance, investment planning, planning for retirement and estate planning.

$175.00

XNI 6032

CPCU 555 Personal Risk Mgmt

Insurance You will learn about personal risk and property liability insurance which includes personal risk management, homeowners endorsements & variations, personal auto, recreational vehicles, developing personal insurance products, underwriting profitability, pricing, reunderwriting personal portfolios, and gaining efficiencies in personal insurance operations. This course prepares you for the national CPCU test.

$175.00

XNI 6033

CPCU 556 Personal Financial

You will learn about life insurance & social security insurance including health, disability and long-term insurance, basic investment principles, equity & fixed-income investments, mutual funds, asset allocation, income tax planning, planning for retirement and estate planning. The course prepares you for the national CPCU test.

$175.00

XNI 6034

CPCU 557 Comm'l Risk Mgmt.

Financial Planning In this survey course of commercial risk management and insurance you will learn about commercial property, business income, commercial crime and equipment breakdown insurance, inland and ocean marine commercial general liability, commercial auto, business owners and farm workers compensation and employers liability and risk financing. This course prepares you for the national CPCU exam.

$175.00

Intensive English (XGI)

XGI 1020

American Idioms and Slang

Where is "hog heaven"? Can you be arrested for "beating a dead horse"? What does "no duh" mean? Come and find out about these and other idioms and slang expressions unique to the American culture. This course will help you to speak and understand English in an informal social context. Beginning through Advanced level of English proficiency required.

$295.00

XGI 1030

Learn & Test-Taking Strategies

A description is not available for this course.

$250.00

XGI 1035

Advanced Learning Strategies

Practice speaking and understanding English in an academic setting by listening to lectures, participating in small group discussions, giving presentations, expressing ideas and opinions, summarizing and comprehending various speech forms and a variety of other activities.

$575.00

XGI 1040

Beg & Inter Pronunciation

Learn to express meaning and feel confident in different types of spoken communication situations; includes strategies, learning tools and practice to help with rhythm, stress and intonation.

$95.00

XGI 1041

High Inter Adv Pronunciation

Learn to express meaning and feel confident in different types of spoken communication situations; includes strategies, learning tools and practice to help with rhythm, stress and intonation.

$95.00

XGI 1060

Online Business & Tech Writing

This online course provides skills in writing effectively for various business and technical purposes in the quickest time possible. In addition to covering the necessary basics in writing for the professional American audience, the course will efficiently incorporate numerous topics and lessons that will be useful to any student or professional who will have dealings with the American economy. This is a great course for business and technical professionals, i.e. accountants, engineers, managers, computer specialists, etc.

$675.00

XGI 1065

Medical English for Nurses

Nurses learn medical English to effectively communicate with doctors, nurses, patients and patient's families. Class is open to experienced nurses or students in the process of completing their nursing education.

$449.00

XGI 1080

American Culture

Learn about and understand American customs and practices including idioms and slang.

$45.00

XGI 1090

Computer Training Beg/Inter

A description is not available for this course.

$0.00

XGI 1092

Web Development Class

A description is not available for this course.

XGI 1093

Mixed Media Research

A description is not available for this course.

XGI 1094

Keyboarding, Email & Internet

Practice keyboarding, email and Internet skills necessary for academic success.

$45.00

XGI 1095

English Conv & Current Events

Americans are extremely interested in current events and also very curious about the opinions of international students on these events. Increase your confidence and skill in the various informal conversation strategies necessary to discuss current events in a social situation. Beginning through Advanced level of English proficiency required.

$295.00

XGI 1100

Introductory Listen & Speaking

Practice speaking and understanding English in an academic setting by listening

to lectures, participating in small group discussions, giving presentations, expressing ideas and opinions, summarizing and comprehending various speech forms and a variety of other activities.

$675.00

XGI 1110

Beginning Listening & Speaking

Practice speaking and understanding English in an academic setting by listening to lectures, participating in small group discussions, giving presentations, expressing ideas and opinions, summarizing and comprehending various speech forms and a variety of other activities.

$675.00

XGI 1120

Intermediate Listening & Speak

Practice speaking and understanding English in an academic setting by listening to lectures, participating in small group discussions, giving presentations, expressing ideas and opinions, summarizing and comprehending various speech forms and a variety of other activities.

$675.00

XGI 1130

High Inter Listening & Speak

Practice speaking and understanding English in an academic setting by listening to lectures, participating in small group discussions, giving presentations, expressing ideas and opinions, summarizing and comprehending various speech forms and a variety of other activities.

$675.00

XGI 1150

Presentation/Notetake Skills I

A description is not available for this course.

$675.00

XGI 1200

Introductory Grammar

Study, practice and use the various forms, meanings and uses of English grammar in order to become a better academic speaker and writer. This class reinforces, supports and expands upon the elements of grammar introduced and taught in writing and grammar class.

$675.00

XGI 1210

Beginning Grammar

Study, practice and use the various forms, meanings and uses of English grammar in order to become a better academic speaker and writer. This class reinforces, supports and expands upon the elements of grammar introduced and taught in writing and grammar class.

$675.00

XGI 1220

Intermediate Grammar

Study, practice and use the various forms, meanings and uses of English grammar in order to become a better academic speaker and writer. This class reinforces, supports and expands upon the elements of grammar introduced and taught in writing and grammar class.

$675.00

XGI 1230

High Intermediate Grammar

Study, practice and use the various structures of English in order to become a better academic speaker and writer. This class reinforces, supports and expands upon grammar in the writing and grammar class.

$675.00

XGI 1245

Advanced Grammar Workshop

Study, practice and use the various structures of English in order to become a better academic speaker and writer. This class reinforces, supports and expands upon grammar in the writing and grammar class.

$575.00

XGI 1400

Introductory Reading

Learn various writing skills in order to express and convey meaning and produce various kinds of academic papers including vocabulary work.

$575.00

XGI 1410

Beginning Reading & Vocabulary

Learn various writing skills in order to express and convey meaning and produce various kinds of academic papers including vocabulary work.

$575.00

XGI 1420

Intermediate Reading & Vocab

Learn various writing skills in order to express and convey meaning and produce various kinds of academic papers including vocabulary work.

$575.00

XGI 1630

High Inter Reading & Writing

Learn various writing skills in order to express and convey meaning and produce various kinds of academic papers.

$1,350.00

XGI 1640

Adv Reading Writing & Research

Learn various writing skills in order to express and convey meaning and produce various kinds of academic papers.

$1,250.00

XGI 1670

Writing Support Course

English 106 Nervous about starting credit classes in the fall? Let us give you a head start! In this course, you will get thorough preparation for the Introduction to Writing, ENGL 106, credit class. Gain confidence in your writing skills, from basic sentence skills to paragraph development, including subject selection, topic sentences, methods of development, transitional devices, effective introductions and conclusions, and creating multi-paragraph essays. Advanced level of English proficiency required.

$775.00

XGI 1680

Reading Support Course

Reading 126 Get a head start on Reading Skills Improvement, RDG 126, credit class with this support class. Let us help you improve your understanding of different types of written expression. The course focuses on higher- level understanding and vocabulary skills. Students use Newsweek magazine to

practice skills learned in the class and as a basis for written assignments. the class and as a basis for written assignments.

$775.00

XGI 1700

Introductory Writing & Grammar

Learn, practice and use various writing skills and structures of English to express and convey meaning produce various kinds of academic papers, and become a better writer.

$775.00

XGI 1710

Beginning Writing & Grammar

Learn, practice and use various writing skills and structures of English to express and convey meaning produce various kinds of academic papers, and become a better writer.

$775.00

XGI 1720

Intermediate Writing & Grammar

Learn, practice and use various writing skills and structures of English to express and convey meaning produce various kinds of academic papers, and become a better writer.

$775.00

Management Development (XDM)

XDM 0525

Team Facilitation

Learn the basic skills of a team facilitator. In this seminar, you'll use the Personal Profile System to better understand your own personality traits and those of your fellow team members. You'll learn the proper role of the facilitator, how to conduct interventions within the dynamics of the team as a process consultant, how to remove barriers to process interventions, and how to eliminate primary and secondary team conflicts.

$199.00

XDM 0528

Increase Team Performance

Build on the skills and knowledge gained from the other seminars to increase the performance of your team. You'll learn why trust is essential to well-functioning teams, characteristics of high-performing teams, strategies for increasing performance and how to use the Team Responsibilities Chart. You'll also cover common issues, including coordination and social facilitation losses.

$199.00

XDM 0530

Team Leadership Development

This seminar focuses on the development of team leadership skills. Learn the role of team leader, issues and strategies for making the transition from supervisor to team leader, and how to enhance behavioral changes in a team leader. You'll learn how to structure a team, the typical phases a team goes through on its journey to high performance and what leadership style is most effective for each phase.

$199.00

XDM 0541

Facilitate Change in Teams

How your team handles change will affect the success of any change effort in

your organization. This seminar shows you how to use teams in a change effort, ways to reduce resistance to change and how to help individual team members deal with change at a personal level. You'll use the OCOS Change Profile to assess your natural tendencies when faced with change and the Leading Change assessment tool to determine how ready you are to lead the change process.

$199.00

XDM 0542

Manage Team Conflict

Conflicts will affect whether your team will perform at its highest level. This seminar prepares you to diagnose team conflicts and resolve them. You'll talk about primary and secondary team conflicts, strategies for resolving each, and ways to teach a team to resolve its own conflicts.

$199.00

XDM 0550

Maximizing Team Diversity

Whether it's age or cultural differences, gender issues, distance, or full-time versus casual employees, you may find yourself facing increasingly diverse work teams. In this seminar, you'll explore how diversity can affect teams and learn ways to maximize differences for improved creativity and problem-solving capability by fostering a climate that supports and values diversity.

$199.00

Massage Therapy (XNM)

XNM 5000

Bodywork Intro

This training module will introduce you to the theory and practice of bodywork. The history, philosophy, art, techniques and experience of Swedish Massage will be presented. You will be taught the five basic Swedish Massage techniques (vibration, friction, effluerage, tapotement, and petrissage) and how to combine them into a full-body massage. Other topics will include review of anatomy and body structures, benefits, contraindications, breathing and grounding skills, practitioner self-care, use of oils and draping techniques. (64 hours)

$704.00

XNM 5010

Kinesiology

Kinesiology is the study of movement as it relates to the human body. This course will include an intense review of muscular-skeletal anatomy, and elements of physics, geometry, and physiology. The curriculum is designed to provide instruction in Kinesiology as it pertains to therapeutic massage, and as students you will practice palpation and assessment of body motion with the intent of being able to apply appropriate body work. (40 hours)

$440.00

XNM 5021

First Aid CPR Recertification

This reaffirmation course is open to adults who are currently certified and who wish to obtain recertification. Material covered includes assessment of victim, what to do in case of bleeding, shock, poisoning, thermal or heat burns, hypothermia, stroke, fracture management, and other medical emergencies.

$39.00

XNM 5030

Communicable Diseases

This course, designed for JCCC's Therapeutic Massage Certification program, is open to anyone who needs or wants to learn about infection control and why it is necessary. Material covered includes how to identify common communicable diseases such as hepatitis A, B, and C, HIV and AIDS, TB, herpes and shingles;

high risk behaviors; how infection is spread; and how to reduce the risk of such diseases.

$33.00

XNM 5040

Clinical Bodywork M

This is the second class in fulfilling the certification requirements. It is the continuation of the therapeutic massage techniques, with emphasis on integration of the parts into a full body massage. New strokes will be introduced for a broader and deeper application to the muscles. Time will also be spent on how to lengthen and shorten individual and muscle groups, as well as continued muscle locations. (72 hours) Prerequisite: Introduction to Bodywork

$792.00

XNM 5050

Pathology

This course is an in-depth study of pathology that discusses disease processes and altered functions affecting the human body. It will emphasize indications and contraindications for therapeutic massage. The students will learn how a massage therapist needs to adapt their technique to meet specific conditions.

$550.00

XNM 5060

Hydrotherapy

This course will provide instruction on the use of water as a therapeutic tool in conjunction with massage therapy, including body temperature regulation and the physiology of heat and cold, using techniques such as herbal body wraps, shower modalities, and hand and foot baths. The student focuses on the application of water and associated modalities in treating diverse human disorders. The course content broadens the student knowledge so that he/she can provide a much more diverse approach to his/her individual art of therapeutic massage and bodywork. (15 hours)

$165.00

XNM 5070

Clinical Bodywork Module III

This is the third class in fulfilling the certification requirements. It is the continuation of deeper tissue work with an introduction to myofascial release techniques and trigger points. You will learn the integration of all techniques in dealing with specific injuries. Prerequisite: Clinical Bodywork Module II. (64 hours)

$704.00

XNM 5075

Prof Business Practices I

This is a foundation course for establishing and maintaining a successful professional massage practice. Topics discussed: ethical and professional issues; documentation of massage sessions using medical terminology; maintaining a safe and nurturing work environment; meaning of professionalism in a massage practice.

$132.00

XNM 5080

Prof Business Practices II

This course will take students through a series of exercises designed to stimulate their awareness of the setting up of business fundamentals. Applied learning skills will be used on some of these topics: public speaking, conceptual planning, mastering marketing tools. Prerequisite: Business Practices I (40 hours)

$440.00

XNM 5091

Bodywork Clinic I

A description is not available for this course.
$275.00

XNM 5092

Bodywork Clinic II
A description is not available for this course.
$275.00

Student Handbook

Admissions and Enrollment Information

- Admissions Procedures
- Keeping Options Open
- Programs for Selective Admissions
- Cooperative/Reverse Cooperative Programs
- Area Vocational School
- Student Financial Aid
- Enrollment and Costs

Services and Activities for Students

- Campus Services
- Academic Support Services
- Student Life and Leadership Involvement
- Student Support Services

Academic and Student Policies and Procedures

- Academic Progress
- Academic Records Retention
- Academic Renewal
- Access to Student Information
- Advanced Standing Credit
- Attendance
- Auditing a Class
- Code of Conduct
- Commencement Information
- Courses by Arrangement
- Final Examinations
- Grade Information
- Holds
- Honors
- Parking
- Records on Hold
- Safety and Security
- Student Health
- Transfer Information
- Transcripts
- Verification of Enrollment

Admissions and Enrollment Information

Admissions for Credit Students

Enrollment and Costs

Student Financial Aid

Admissions for Credit Students

Admissions Procedures

- New Students
- Residency
- Continuing Student

Cooperative Programs

- Cooperative Programs
- Reverse Cooperative Program

International Student Admissions

- Resident Alien/Permanent Resident Students
- JCCC I-20 International Students Admissions
- Visiting International Students Admissions
- Visiting F-1 Students Admissions
- Asylees and Refugees Admissions

Keeping Options Open

- Career/Life Planning
- Career and Technical Academy
- College Now
- Quick Step
- Technical College Preparation

Programs with Selective Admissions

- Registered Nurse
- Licensed Practical Nurses
- Cosmetology
- Dental Hygiene
- Interpreter Training
- Mobile Intensive Care Technician (Paramedic)
- Paralegal
- Railroad Operations
- Respiratory Care

Area Vocational School Programs

- AVS Programs Admission Procedure
- Health Occupations
- Practical Nursing and Certified Nurse Aide
- Certified Medication Aide
- Home Health Aide
- Certified Medication Aide Update

- Cardiopulmonary Resuscitation
- IV Therapy for Licensed Practical Nurses
- Rehabilitative Aide
- Cosmetology - Nail Technician, Esthetician

Admissions Procedures

New Students

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

1. Complete an application form and return it to the Student Success Center, second floor, Student Center. Application forms are available from the Success Center, in the credit class schedule or on the Web under "Enrollment." All new and readmitted students must complete a new admission application.

2. Have official copies of your transcripts sent to the Admissions office at JCCC.

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

You must submit an official transcript from each U.S. college or university you have attended if you are seeking any degree or certificate from JCCC or applying for federal financial aid.

- If you are currently attending another institution, you need to have your transcript sent at the end of the semester. (If you are not pursuing a degree or certificate at JCCC, you may be exempt from this requirement. Admissions will notify you upon your acceptance to the college.)
- The issuing institution must mail the official transcript to JCCC. Hand-carried or faxed copies are not acceptable. You will not be allowed to graduate or have JCCC transcripts sent elsewhere unless Admissions receives all outstanding transcripts.

3. You are encouraged, but not required, to submit American College Testing scores. If you plan to submit scores, you should take the ACT test as early as possible and request that scores be sent to JCCC.

Residency

Currently, Kansas law requires that you live in the state six months prior to the first day of the semester or session in order to be eligible for resident tuition rates. This law is subject to change at the discretion of the Kansas State Legislature. The six-month requirement may be waived upon appeal to the director of admissions or if you were transferred or recruited by a Kansas company as a full-time employee to work in the state and have established a residence in Kansas. If you are a nonresident or visiting international student at JCCC, you must pay out-of-state tuition and fees. Address changes that result in a change to Kansas residency may require validation through a residency appeal. Those living in Kansas but outside Johnson County prior to the beginning of the semester will be assessed the out-of-county tuition rates for the remainder of the semester. Contact Admissions for details. If you have lived in Kansas for six months and are pursuing your permanent resident status through INS, contact Admissions for more information.

Continuing Students

An application for admission to JCCC is valid for one year. If a student does not enroll or reapply within a year, a new application for admission is required.

Cooperative Programs

JCCC Cooperative (Affiliate) Programs

Cooperative Programs

Johnson County Community College and the Metropolitan Community College District (MCCD) have developed cooperative agreements that allow Johnson County residents to enroll in selected career programs at resident cost-per-credit-hour rates. Cooperative programs include Academic Bridges to Learning Effectiveness (ABLE), dental assisting, grounds and turf management, health information technology, occupational therapy assistant, physical therapist assistant, radiologic technology, supply chain logistics, surgical technology, travel and tourism management and veterinary technology. For more information about specific criteria required for individual program acceptance, contact the Metropolitan Community College District.

To participate in a cooperative program, the following requirements must be met:

1. Apply for admission at both JCCC and the cooperative college (Penn Valley, Maple Woods, Longview or Blue River).

2. Take the JCCC Assessment Test.

3. Be officially accepted into the program at the cooperative school.

4. Register for degree-specific courses at one of the MCCD institutions. (It is your responsibility to contact the cooperative school for enrollment dates and times.)

5. Submit a copy of the MCCD student schedule to the JCCC Admissions office. (This form lists the courses you have enrolled in at the cooperative school and must be updated each semester prior to enrollment at JCCC.)

6. Complete and sign the JCCC cooperative student contract. (This is only required upon initial acceptance into the cooperative program. It is your responsibility to retain a copy for your records.)

7. Register for the equivalent "cooperative" classes at JCCC during official registration days as listed in the JCCC credit class schedule. (This is referred to as dual enrollment.)

8. Pay tuition at JCCC by the designated date. Pay lab fees at the cooperative school.

9. Return the JCCC payment receipt to the appropriate cooperative college's business office by MCCD's payment deadline. (Failure to update payment records at the cooperative school may result in your being dropped for nonpayment at MCCD.)

You must apply for and receive all your financial aid at JCCC.

JCCC has the right to limit enrollment in the cooperative program and can make changes in the program at any time.

For more complete, up-to-date information, refer to the current semester's credit class
schedule.

Reverse Cooperative Programs

Missouri residents are allowed to enroll in the biotechnology, chef apprenticeship, fire science, horticulture, hospitality management, interior design, power plant

technology, railroad operations and respiratory care programs offered through Johnson County Community College at resident Missouri tuition rates.

To participate, the following requirements must be met:

1. Apply for admission at both JCCC and the cooperative college (Penn Valley, Maple Woods, Longview or Blue River).

2. Register for classes at JCCC during official registration days, as listed in the JCCC credit class schedule.

3. Take a copy of your JCCC course schedule to one of the cooperative colleges listed above and register for the equivalent "cooperative" courses. This is a dual-enrollment program. It is your responsibility to contact the cooperative school for enrollment dates.

4. Pay tuition and fees at the cooperative school. Pay lab fees at JCCC (if applicable). Students requesting financial aid should apply through the MCCD, not JCCC.

5. Provide a copy of the MCCD student schedule to the JCCC Admissions office before the JCCC payment deadline. (This form lists the courses you have enrolled in at the cooperative school and must be updated each semester you participate in the program.) If the form is not received by the payment deadline, you will be dropped from classes at JCCC and will need to register again for those courses, should you decide to remain in the program.

As a Missouri resident, you must apply for and receive all your financial aid through the Metropolitan Community College District. Missouri residents in the above programs are not eligible for financial aid through Johnson County Community College.

Respiratory care and railroad operations are selective admission programs.

Enrollment in the hospitality management/chef apprenticeship programs is by approval of the hospitality management assistant dean. Contact the department head for more information.

International Student Admissions

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

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

Resident alien/permanent resident students are students who have been granted permanent residency status by Immigration and Naturalization Services.

Resident Alien/Permanent Resident Students

New and transferring students who have been approved for a green card and assigned an alien registration number must satisfy all college admission policies in addition to the following:

1. Present a "green card", a "Notice of Action" or a letter from the U.S. Bureau of Citizenship and Immigration Services (BCIS) that verifies your permanent residency status. An employment authorization card is not sufficient. Enrollment will not be allowed without proof of permanent residency.

Note: Pending permanent residents who have filed an I-485 application and paid the application fee must submit either a BCIS receipt, a "Notice of Action" or a letter on legal letterhead from an attorney verifying the I-485 has been filed and the individual is awaiting approval for permanent residency.

2. If you are seeking a degree seeking at JCCC, submit official transcripts from all U.S. secondary and postsecondary educational institutions attended. The issuing institution must send the transcript directly to the JCCC Admissions office. Hand-carried and faxed transcripts will not be accepted. Transcripts from non-U.S. institutions are not required.

Note: If you have been out of school more than five years, you do not need to submit your U.S. secondary school transcripts.

3. Complete the JCCC assessment and enrollment process.

- If you are seeking a degree or planning to enroll in math or English and you have not successfully completed college-level math and English or have minimum ACT or SAT scores, you will be required to take the JCCC assessment test prior to enrollment.
- Discuss course selection, based on your assessment results, with a JCCC counselor. JCCC assessment results may require enrollment in specific courses.
- Enroll in classes approved by a JCCC counselor.

I-20 International Students

JCCC I-20 international students are students who are applying for an I-20 from JCCC to obtain a student (F-1) visa.

New and transferring international students applying for an I-20 from JCCC to obtain a F-1 student visa must satisfy all college admission policies in addition to the following requirements:

1. Complete all International Student application forms available online at http://web.jccc.net/student/international/ or in the International Student Services Office or the Student Success Center.

2. Submit to International Student Services your tuition deposit by check or money order, completed application and all requested supporting documents including, but not limited to, a valid TOEFL score or required proficiency documentation and verification of ability to pay tuition and fees, room and board and personal expenses. Specific information concerning application deadlines and other admission requirements is available online at http://web.jccc.net/student/international/ or in the International Student Services office or the Student Success Center.

3. If accepted for admission, you must complete the JCCC assessment process prior to enrollment unless you have successfully completed English Composition I and a college math course at a U.S. institution before you enroll in classes. JCCC assessment results may require enrollment in specific courses.

4. Attend the International Student Orientation. Attendance at orientation offered at the beginning of each semester is mandatory for all new and transfer international students in their first semester at JCCC in order to complete the required check-in processes.

5. Pay for insurance. All students on an I-20 from JCCC are required to demonstrate proof of health, medical evacuation and repatriation insurance coverage meeting the requirements established by JCCC. Funds must be available to finance health/medical insurance from the international student's first period of enrollment through graduation at JCCC. Payment for insurance or proof of the minimum coverage required is due by the tuition payment deadline each semester.

Note: New and transfer international students seeking an I-20 from JCCC must pay a USD $100 tuition deposit. Deposits will be applied to your tuition if you enroll in courses at JCCC within one year. Deposits will be forfeited if you do not enroll within one year of the intended enrollment date marked on your application for admission.

Visiting F-1 students are students who currently hold a valid I-20 from another

institution.

F-1 Visiting Students

Visiting F-1 students hold a valid I-20 from another institution and will be taking no more than six hours during the fall or spring semester at JCCC while also attending the institution from which his or her valid I-20 has been issued. Visiting F-1 students must satisfy the following requirements each semester:

1. Complete an international student admission application available at http://web.jccc.net/student/international/admissions.htm.

2. Obtain and return a completed "Visiting F-1 Student Verification" form and present your original passport, I-94 card, valid I-20 and visa to the International Student Services office or the Success Center for copying.

3. Prior to enrolling, complete the JCCC assessment and enrollment process as described under "Resident Aliens." JCCC assessment results may require enrollment in specific courses.

Note: While attending JCCC on an I-20 from another institution, you will be assessed the out-of-state tuition rate.

Visiting international students are those who hold a valid visa other than an F-1 (A-2, E-2, H-1, H-4, K-1, L-2, TN, V-2 etc.).

Visiting International Students

Visiting international students who hold valid visas other than a F-1 student visa must satisfy all college admission policies in addition to the following requirements each semester:

1. Complete an international student admission application available at http://web.jccc.net/student/international/admissions.htm.

2. Present your current documentation, including but not limited to passport, visa and I-94 card to the International Student Services office or the Success Center for copying. Your I-94 card must be valid through the end of the semester in which you wish to enroll. Your passport, I-94 card and visa must be presented prior to enrolling each semester.

3. Prior to enrolling, complete the JCCC assessment and enrollment processes described under "Resident Aliens." JCCC assessment results may require enrollment in specific courses.

Note: All international students holding current/valid visas, except H-1 and H-4 holders, are assessed the out-of-state tuition rate. H-1 and H-4 visa holders who meet residency requirements are assessed the in-state tuition rate. J-1 students are required to demonstrate proof of health, medical evacuation and repatriation insurance coverage meeting the requirements established by JCCC. Funds must be available to finance health/medical insurance from the international student's first period of enrollment through graduation at JCCC. Payment for insurance or proof of minimum coverage required is due by the tuition payment deadline each semester.

Asylees and Refugees

Asylees and refugees are students who have been granted resettlement in the US.

Asylees and refugees must satisfy all college admission policies in addition to the following requirements each semester:

1. Complete an international student admission application available at http://web.jccc.net/student/international/admissions.htm.

2. Present current documentation of your status to legally reside in the U.S. to the International Student Services office or the Success Center for copying. Evidence might include a copy of Form I-94 (Arrival-Departure card) or a clear readable copy of your INS letter (Form I797, Notice of Action) granting asylum or refugee status.

3. Prior to enrolling, complete the JCCC assessment and enrollment processes described under "Resident Aliens." JCCC assessment results may require

enrollment in specific courses.

Note: Asylees and refugees who meet all admissions and residency requirements will be assessed the in-state tuition rate.

Keeping Options Open

Keeping Options Open, www.jccc.net/home/depts/4633, is a partnership between area high schools and Johnson County Community College.

Career Life Planning, http://www.jccc.net/home/depts/4633/, is a series of workshops for high school students and their parents, beginning in the students' sophomore year and continuing throughout their junior and senior years. Contact your high school counselor or Marilyn Jones, Career Life Planning coordinator, 913-469-8500, ext. 4384.

College Now, http://www.jccc.net/home/depts/4633, is a college credit program for high school juniors and seniors (and students identified as gifted with a current Individual Education Plan) who are enrolled in selected college classes offered at, and in cooperation with, the high school. Contact your high school counselor or the JCCC Admissions office, 913-469-3803.

Quick Step, http://www.jccc.net/home/depts/4633, is a program for high school juniors and seniors (and students identified as gifted with a current IEP) in which instruction is provided by JCCC faculty, usually on the college campus. Contact your high school counselor or the JCCC Admissions office, 913-469-3803.

Technical College Preparation, http://www.jccc.net/home/depts/4633, is a program promoting the coordination of high school and postsecondary career programs, including advanced standing college credit options. Contact your high school counselor or Minnie Gilmer, Technical College Preparation coordinator, 913-469-9500, ext. 4710.

Programs with Selective Admissions

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

Registered Nurse

Maximum number selected: 55

Application deadline: Jan. 15

Classes begin fall semester

See Nursing

Articulation of Licensed Practical Nurses

Maximum number selected based on number of available positions in NURS 221

Application deadline: Jan. 15

Classes begin summer session

See Nursing

Cosmetology

See Area Vocational School Programs - Admission Procedures

Area Vocational School Programs - Admission Procedures

Dental Hygiene

Maximum number selected: 26

Application deadline: Feb. 1

Classes begin fall semester

See Dental Hygiene
Interpreter Training

Maximum number selected: 30

Application deadline: Feb. 12

Classes begin fall semester

See Interpreter Training
Mobile Intensive Care Technician (Paramedic)

Maximum number selected: 26

Application deadline: Oct. 15

Classes begin spring semester

See MICT Paramedic
Paralegal

Maximum number selected: 50

Application deadline: April 1 for fall semester, Oct. 1 for spring semester

See Paralegal
Railroad Operations

Contact the assistant dean of railroad operations.

See Railroad Operations
Respiratory Care

Maximum number selected: 20

Application deadline: Oct. 15 (if openings exist, applications will be accepted through Feb. 15)

Classes begin summer session

See Respiratory Care
Respiratory Care CRT-RRT

Maximum number selected based on number of available clinical positions

Application deadline: Oct. 15 for spring semester, Feb. 15 for fall semester

See Respiratory Care
Admission to each of the selective admission programs is highly competitive. Therefore, you should request and submit an application packet as early as possible.
The paralegal program has a number of options that can be considered. Deadline dates and beginning semesters will depend on your admission status and the option you choose. You should contact the Admissions office or the program facilitator of the paralegal program to obtain specific information about the admission process and the program options.

Area Vocational School Programs

Admission to the college does not guarantee enrollment in any specific AVS program. Some AVS programs have a limited number of openings each year and have specific entry-level admission requirements that must be met before admission to the program is granted. If you are interested in any of the following AVS programs, obtain an admission packet from the AVS admissions office or the Success Center, second floor, Student Center. The packet provides the specific selection criteria.

Health Occupations

Practical Nursing

Maximum number selected: 24

Application deadline: April 1

Classes begin fall semester

Certified Nurse Aide

Certified Medication Aide

Home Health Aide Certificate

Cert Medication Aide Update

Cardiopulmonary Resuscitation

IV Therapy for LPN Certificate

Rehabilitative Aide Cert

Call 913-469-8500, ext. 4722, for information on these programs.
Cosmetology
Maximum number selected: 25

Application deadline: Contact AVS office, West Park Center

Classes begin fall and spring

Nail Technology Program

Esthetics Program

Call 913-469-8500, ext. 4722, for information on these programs.

Nail Technology Program

Cosmetology Program | Esthetics Program | Nail Technology Program | Info Packets & Application | Salon Services | Homepage

Students in the Nail Technology program attend class 40 hours a week for 10 weeks. They receive instruction in the application of tips, wraps, overlays and sculptured nails. In addition, students learn about various nail disorders and care. AVCO 102 prepares students for the Kansas State Board of Cosmetology Onychology licensure examination.

Please follow the link below for more information on the Nail Technology Certificate program.

Nail Technology Certificate

Please click on the links below to download the Nail Technology Information Packet and admission application. You will need Adobe Acrobat Reader to open the files.

Esthetics Program

Cosmetology Program | Esthetics Program | Nail Technology Program | Info Packets & Application | Salon Services | Homepage

Students in the Esthetics Program attend full-time class 40 hours a week for four and a half months or attend part-time class 20 hours a week for ten months. They receive instruction in areas such as theory and practice in sanitation, skin sciences, skin treatments, make-up and business practices. This course prepares students to take the Kansas State Board of Cosmetology examination for Esthetics.

Read an interview with Tama Veltri,
Assistant Professor of Esthetics, by clicking here.

Please follow the links below for more information on the Esthetics certificate programs available.

Esthetics Certificate

Advanced Esthetics Training

Please click on the links below to download the Esthetics Information Packet and admission application. You will need Adobe Acrobat Reader to open the files.

Enrollment and Costs

Enrollment Procedures

- Enrollment
- Assessment
- Placement Based on Assessment
- Counseling
- Scheduling Classes
- Student Course Load
- Enrollment Eligibility
- Enrollment for Classes with Varying Start and End Dates
- Deadlines for Adding and Dropping Classes

Adding and Dropping a Class

- Deadlines for Adding and Dropping Classes
- Adding and Dropping Credit Classes Effect on Cost per Credit Hour
- Dropping a Course Required by Assessment
- Adding an Area Vocational Course
- Continuing Education Class Enrollment

Costs

- Credit Class Cost per Credit Hour
- Returned Check Policy
- Area Vocational School Registration and Fees

- Continuing Education Class Fees
- Textbook Costs

Enrollment Procedures

Enrollment

Students will enroll for classes according to instructions and deadline dates contained in the schedule of classes published prior to the start of enrollment for each semester. Enrollment is considered complete when the student, financial aid, or a third party pays tuition and fees. Students with past-due obligations to the college may not enroll for classes until such obligations are resolved to the satisfaction of the college.

The college reserves the right to deny enrollment to any individual who has violated the Student Code of Conduct, as defined in policy 319.01, and is currently suspended from the college; who is not making academic progress, as defined in policy 314.06; or when the college is unable to provide the services, courses or programs needed to assist a student in meeting his or her education objectives.

No student may enroll in any course for the third time without counselor approval.

Students may not attend a course unless officially enrolled in the course.

Assessment

Students may be required to participate in the assessment process prior to enrollment under the following circumstances:

- Students who are degree- or certificate-seeking will be required to take the assessment test, with the exception of a few vocational certificate programs that do not require math and/or English.

- Students who wish to enroll in a math or English course at JCCC, regardless of whether they plan to seek a degree or certificate, must take the assessment test.

Substitutions for the assessment:

- Students who have taken the ACT test within the last three years and earned an English score of 19 or higher, a math subscore of 26 or higher, or both may substitute these scores for some sections of the assessment. Bring your official ACT scores to the Success Center before you take the assessment.

- Students who have successfully completed college courses in math and English from a U.S. institution may substitute these courses for the assessment.

- Students enrolling in courses offered through the JCCC Center for Business and Technology may not be required to take the assessment.

- Students enrolling in courses specially designed for specific populations may not be required to take the assessment. (The division administrator and the vice president of Instruction will designate these specific courses.)

Placement Based on Assessment

Students may be required to enroll in developmental reading or English classes during their first semester based on their assessment scores. Additional information is available in the Success Center and in Testing Services.

Counseling

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

Once an education plan has been developed and the assessment test has been taken, students are ready to enroll. Enrollment periods will be listed in the credit class schedule available each semester in the Student Center.

Scheduling Classes

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

Student Course Load

For the fall or spring semester:

- Enrollment in 12 or more credit hours is considered full-time status.
- Enrollment in 6 to 11 credit hours is considered half-time status.
- Enrollment in 1 to 5 hours is considered less than half-time status.

For the summer session:

- Enrollment in 6 or more credit hours is considered full-time status.
- Enrollment in 3 to 5 credit hours is considered half-time status.
- Enrollment in 1 to 2 credit hours is considered less than half-time status.

Students who wish to enroll in more than 18 semester hours of credit for a fall or spring semester or more than 9 hours of credit in the summer must, before enrolling, receive written permission from a counselor and have a 2.5 cumulative GPA.

Enrollment Eligibility

Students who are currently enrolled or new students with a current application on file may enroll by Web according to procedures listed in the credit class schedule. To facilitate enrollment by Web, students should make sure any transcripts from other schools containing prerequisites for courses at JCCC have been received and articulated. Students should also take care of any holds on their records, such as financial or library obligations, prior to enrollment.

Enrollment for Classes with Varying Start and End Dates

Students may enroll for classes listed in the "class offerings with varying start and end dates" section of the credit class schedule up to the day class begins.

Adding and Dropping a Class

Deadlines for Adding and Dropping Classes

The deadlines for adding and dropping classes will be determined by the registrar

and published each semester in the credit class schedule.

Students officially withdrawn from a course may no longer attend that course. A grade of "W" will be recorded on a student's permanent record if the course is dropped after one quarter of the semester or session has passed.

Note: Students with holds on their records will not be allowed to drop classes. See the "Records on Hold" policy. The office of the vice president of Student Services may authorize exceptions to these policies. All appeals must be made in writing.

Adding and Dropping Credit Classes and Effect on Cost

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

After the expiration of the refund period, an even exchange for tuition purposes may be granted in the following situations:

- changes in sections for the same 16-week class.
- changes in sections for the same short-term class that begins during the same week and extends over the same number of weeks.
- changes from a higher-level math or English regular-start class to a lower-level math or English late-start class, which may occur until the late-start class begins. Students will not be granted an even exchange when dropping any other regular-start class and adding a late-start class or adding a self-paced class.

All changes occurring after the expiration of the refund period require approval by the administrator of the academic division under which the class is offered.

If a student drops a class and adds a different class after the expiration of the refund period, the student will be required to pay the additional tuition.

Dropping a Course Required by Assessment

Students will be required to drop all classes when dropping reading/English classes in which they were required to enroll by the assessment process. All appeals should be made in writing and reviewed by the director of Student Development for resolution.

Adding an Area Vocational Course

Enrollment deadlines for Area Vocational School programs are published in college publications, which are available at the AVS office and the JCCC Success Center.

Continuing Education Class Enrollment

For information regarding enrollment in continuing education classes, as well as information on adding and dropping these classes, please see the Continuing Education and Community Services section.

Costs

Credit Class Cost per Credit Hour

The cost per credit hour is as follows, (the JCCC board of trustees has the right to change the cost per credit hour without notice).

$ 58 per credit hour for Johnson County residents

$ 73 per credit hour for other Kansas county residents

$ 139 per credit hour for out-of-state and *visa holders

*Pending permanent residents, permanent residents and H and V visa holders should contact the JCCC Success Center at 913-469-3803 or toll-free in the U.S. at 866-896-5893.

Some courses may require additional fees. These fees are listed in the credit class schedule each semester.

If you enroll early, payment is due by the date listed in the credit class schedule. If you enroll during the late enrollment time or audit a class, payment is due the day you enroll.

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

Returned Check Policy

If a check made payable to the college is returned for any reason, your records will be placed on hold, and you will be charged a return check fee of $25 for each returned check. For more information, refer to this pdf document, http://www.jccc.net/home/depts/6208/site/rtnchk.

Refunds

Credit Class Refunds

A full refund of cost per credit hour will be issued if JCCC exercises its right to cancel a class. Depending on the date on which you withdraw from a class, you may receive a partial refund. Prior to and during the first week of each fall and spring semester and the first three days of the summer term, you may drop classes on the Web. After this time, you may withdraw from classes by submitting a drop form to the Success Center prior to the deadlines.

When withdrawing from a regular 16-week course in the Spring and Fall semesters, please note the following deadlines:

- To receive a 100 percent refund of the cost per credit hour, the course must be dropped on or before the fifth business day of the semester.
- To receive an 80 percent refund of the cost per credit hour, the course must be dropped on or before the 10th business day of the semester.
- No refund will be authorized for withdrawals or registration changes made after the specified calendar days listed in the credit class schedule.The only exceptions are if the class is canceled by the college or it is necessary to revise the class schedule, in which case a 100 percent refund of cost per credit hour will be issued.

When withdrawing from any classes that start and stop at various timesduring the Spring, Summer or Fall terms the deadlines are prorated based on the same ratios as the 16-week courses. See the credit class schedule for more detailed information each semester, or contact the Student Success Center for specific deadlines.

Refunds are calculated based on the day you *officially* drop a class in the Success Center, not when you stop attending class.

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

Continuing Education Course Refunds

A full refund will be made if the college exercises its right to cancel a class or if the class is full when your registration is received. A request for refund will be honored if a written request is received in the JCCC Continuing Education office four business days before the class begins. The vice president of Continuing Education may authorize exceptions to this policy.

Returned Check Policy

Continuing education class fees are variable. Go to the course description for each fee at Course Schedules - Continuing education courses and training. The address is http://www.jccc.net/home/sitemap/class_schedules.

Textbook costs are variable. Go to Bookstore Textbook Search for specific courses at http://bookstore.jccc.net.

Student Financial Aid

Financial Aid Process

- Eligibility Requirements
- Applying for Need-based Aid
- Applying for Non-need-based Aid
- Cost of Attendance
- Disbursement of Financial Aid

Types of Aid

- Scholarships and Grants
- Student Employment
- Student Loans
- Veterans Education Benefits
- Third Party Billing
- Note-taker Stipends
- The Taxpayer Relief Act of 1997

Academic Progress Policy (SAP)

- Grade Point Average Requirements
- Percentage of Completion Requirements
- Financial Aid Probation and Ineligibility
- New Students Applying for Aid
- Satisfactory Academic Progress Appeals

Refund Policy

- Institutional Refund Policy
- Withdrawal Date
- Repayment Policy

Financial Aid Process

The purpose of financial aid programs at Johnson County Community College is to provide financial assistance to those students who would otherwise not be able to attend.

The process of determining who receives limited financial aid resources is structured so the distribution of funds is as equitable as possible to meet the needs of students while meeting the criteria of JCCC, agencies and constituents that provide funding for student aid programs.

JCCC participates in many financial aid programs. Each program has its own criteria for defining who is eligible to receive consideration. Responsibility lies with the Student Financial Aid office for matching students with appropriate funds for which they are eligible. To do this, the office must collect accurate information from student applicants. Students must do their part by completing applications and responding to information requests in a timely manner.

Need-based financial aid eligibility is determined by an evaluation of the family's finances estimating what the family can afford to contribute to education costs, with the family then receiving financial aid to cover its need. The United States Congress determines this evaluation formula. Families need to complete the Free Application for Federal Student Aid (FAFSA) for consideration for all federal, state and some institutional funds. Non-need-based financial aid typically has merit criteria not considering the family's financial strength.

All financial aid applicants must have a current application for admission on file with the Admissions office.

Eligibility Requirements

Applying for Need-based Aid

Applying for Non-need-based Aid

Cost of Attendance

The cost per credit hour is established annually by the JCCC board of trustees. Because amounts may vary, the following budget illustrates estimated academic year costs for a Johnson County resident living in an apartment and enrolled in a total of 24 credit hours.

$ 1,392, tuition and fees

$ 1,200, books and supplies

$ 5,264, room and board

$ 3,578, transportation and personal expenses

$11,434 = Total cost of attendance

Changes in Enrollment

If you withdraw from any of your classes after the beginning of the term, you may be required to repay a portion of the funds you received. A copy of the specific financial repayment and refund policy may be obtained from the Student Financial Aid area of the Success Center on the second floor of the Student Center.

Disbursement of Financial Aid

Your financial aid will be used to pay your cost per credit hour and any other outstanding charges due JCCC. Any remaining funds will be disbursed to you per the disbursement schedule sent to you prior to each semester of enrollment.

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

If you have not received your award notification by the payment deadline, you will be responsible for payment of courses.

Financial aid may still be awarded after your payment has been made. In this instance, your payment will be refunded to you and the financial aid (which cannot exceed your eligibility) will be applied to your cost per credit hour expenses.

Eligibility Requirements

Eligibility Requirements

To be considered for financial aid, you must:

- Be enrolled in a program that leads to an associate's degree or an eligible vocational certificate or be in a transfer program that leads to a bachelor's degree at another institution.

- Be a U.S. citizen, an eligible noncitizen or a permanent resident of the United States.

- Maintain satisfactory academic progress according to the JCCC student financial aid policy.

- Not be in default on a student loan or owe a repayment on a grant.

- Register with the selective service (if required) and sign a statement of selective service status (www.sss.gov).

- Have a high school diploma or GED certificate or demonstrate the ability to benefit through the Compass Test (receiving minimum scores designated by the U.S. Department of Education).

- Have a valid Social Security number (www.ssa.gov).

For additional information on Federal Student Aid please refer to this website at the Department of Education.
Federal Student Aid - Dept. Of Education

Applying for Need-based Aid

Complete the Free Application for Federal Student Aid (FAFSA). This must be sent to the federal processor at least eight weeks before tuition and fees are due. Upon receiving the results of your FAFSA, which is called the Student Aid Report (SAR), the Student Financial Aid office will begin evaluating your data. Additional information may be needed, which will be requested from you by letter. Such additional documents might include copies of federal tax forms, W-2s and verification worksheets. Please refer to this website for the FAFSA Application on the Web.

FAFSA - Free Application for Federal Student Aid

Upon receiving all required information, the Student Financial Aid office will match your application with available funds. You will be sent an offer of financial aid, listing the types and amounts of financial aid for which you are eligible. To reserve these funds, you must sign and return your award notification within the time specified. Some funds will require additional processing.

For additional application information, refer to the financial aid brochure.

Applying for Non-need-based Aid

Complete the JCCC scholarship application for any merit or financial need-based scholarships. The scholarship deadline is April 1 for those funds for which the Student Financial Aid office selects recipients. Some campus departments also select recipients for scholarships in their area and have various deadlines and processes. For details, refer to the JCCC scholarship brochure or to Web information regarding scholarships.

JCCC Scholarship Search

Types of Aid

Types of Financial Assistance/Aid

Several types of financial assistance are available. These include scholarships, grants, student employment, loans and, for some, veterans' benefits. You will need to complete the free Application for Federal Student Aid (FAFSA) and submit the completed form to the central federal processor to be considered for most financial aid programs. The priority deadline at JCCC is April 1. Federal information is available at www.ed.gov/prog_info/SFA.

Scholarships and Grants

Scholarships

Scholarships are offered to qualified applicants. Scholarships are categorized into two basic groups. The first type includes institutional scholarships in which the recipients are selected by the Student

Financial Aid office. To apply for these scholarships, students must complete the JCCC scholarship application by April 1. The second type of scholarship includes those in which various departments on the college campus select recipients. To apply for these departmental scholarships, students need to contact the specific department in which they are interested.

For a listing of scholarships and detailed information, refer to the scholarship brochure available in the Student Financial Aid office or online at Scholarship Information or Types of Financial Aid.

Grant Information

Pell Grant

The

Federal Pell Grant

is a need-based program funded by the federal government. The award amount is directly related to the applicant's federal application results. Federal Pell Grant maximum amounts may vary from year to year, with the maximum being $4,050 during the 2003-2004 award year. The grant must be applied toward education-related expenses. See the Federal Pell Grant under "Related Links" for more information.

Federal Supplemental Educational Opportunity Grant (FSEOG)

The

Federal Supplemental Educational Opportunity Grant

is a federal government grant that ranges from $100 to $1,000 an academic year and must be applied toward education-related expenses. SEOG is a need-based program that must be given to the most needy students, with the amount determined by the Student Financial Aid office. At JCCC, SEOG is awarded very early in the application-processing year due to limited funding. See the FSEOG

Grant under "Related Links" for more information.

Student Employment (Federal Work-study)

Employment opportunities, both on-campus and in the community, are available while you attend JCCC. Information concerning employment is available through JCCC Career Services Success Center,
 http://web.jccc.net/student/financialaid/fws/fws_handbook.html.

Federal work-study provides jobs for students who have financial need. This gives students the opportunity to earn money during the academic year to help pay for educational expenses. For additional information, click on the financial aid Web page, FWS,
http://web.jccc.net/student/financialaid/fws/index.htm.

Student Loans

Federal Perkins Loan

The Federal Perkins Loan, a 5 percent interest rate federal government loan, is processed through JCCC and repaid to JCCC. This need-based loan ranges from $400 to $1,500 a year. Refer to http://web.jccc.net/student/financialaid/loans.htm for additional information.

Subsidized Stafford Loan

The

Federal Subsidized Stafford Loan

funds are processed through lenders of the student's choice. Eligibility for this federal need-based loan is determined by JCCC's Student Financial Aid office. A first-year (taking 0 to 30 credit hours) JCCC student may borrow up to $2,625 (if eligible). A second-year (taking 31 credit hours or more) JCCC student may borrow up to $3,500 (if eligible). For additional information, refer to http://web.jccc.net/student/financialaid/loans.htm.

Unsubsidized Stafford Loan

The Federal Unsubsidized Stafford Loan funds are processed through lenders of the student's choice. Eligibility for this loan is determined by JCCC's Student Financial Aid office. First-year JCCC students may borrow up to $2,625 in an Unsubsidized Federal Stafford Loan or a combination of a Subsidized and Unsubsidized Federal Stafford Loan; second-year students may borrow up to $3,500. Independent students or dependent students whose parents are unable to obtain a PLUS loan may be eligible to borrow up to $4,000 in additional Unsubsidized Stafford Loan. More information is available on http://web.jccc.net/student/financialaid/loans.htm.

Parent PLUS Loan

Federal Parent Loans

for Undergraduate Students (PLUS) are processed through lenders of the parents' choice. Eligibility is determined by the Student Financial Aid office and is not based upon financial need. Parents of eligible dependent students may borrow up to the yearly cost of education (as determined by JCCC) for each child. The amount borrowed may not exceed the cost of education minus any other financial aid the student is eligible for. More in-depth information can be found on http://web.jccc.net/student/financialaid/loans.htm.

An in-depth discussion of all federal aid programs can be found in The Student Guide - Financial Aid, published by the Department of Education and available upon request in the Student Financial Aid office or at http://www.ed.gov/studentaid.htm.

Veterans Education Benefits

Veterans' Education Benefits are typically approved for all of JCCC's degree

programs. Veterans, reservists and eligible dependents requesting benefits must complete the appropriate forms, which are available through the Veterans' Affairs office, Success Center, second floor, Student Center, or by making an appointment to see our VA specialist. All applicants for VA education benefits must have a degree program plan developed and approved (or updated) by a JCCC academic counselor before each registration. Benefit pay is authorized only for those courses specifically listed or indicated on your program plan. JCCC reserves the right to request a program plan on a per need basis. You must maintain enrollment to receive education benefits. To maintain benefit eligibility, you are required to meet the same published standards for satisfactory academic progress as all financial aid recipients at JCCC.

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

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

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

JCCC Veterans Office Information http://web.jccc.net/student/veterans

Veterans Educational Benefits - GI Bill Website
http://www.gibill.va.gov/">http://www.gibill.va.gov/

Third Party Billing

If your employer or a government agency will be paying your fees, the office of Third Party Billing in 237 GEB will hold your classes and bill them with the appropriate authorization. JCCC makes no consideration for cases where the employer reimburses the student. For more information, see
Third Party Billing.

Note-taker Stipends

Note-taker stipends are available if you wish to take notes for deaf or hearing-impaired students in your classes. This stipend will reimburse you up to $300 toward the cost per credit hour for that class at the end of the semester. Contact JCCC's Student Access Services for more information.

Access Services for Students with Disabilities
http://www.jccc.net/home/depts/5111

Student Note-takers Information
http://www.jccc.net/home/depts/5111/site/student_info/notetakers

The Taxpayer Relief Act of 1997

The Hope credit and the Lifetime Learning credit are tax credits that may be available to you if you pay higher education costs. A tax credit reduces the amount of income tax you may have to pay. Unlike a deduction, which reduces the amount of income subject to tax, a credit directly reduces the tax itself. You

can claim the Hope credit for the first two years of an eligible student's postsecondary education and claim the Lifetime Learning credit for the same student in later years.

For additional information about the Taxpayer Relief Act, consult your tax adviser or request IRS Publication 970, Tax Benefits for Higher Education, by contacting the IRS at (800) 829-1040. The link is IRS Web Article, Tax Incentives for Higher Education Expenses. JCCC will not provide tax advice.

Academic Progress Policy (SAP)

Satisfactory academic progress is the measurement of a student's scholastic progress or advancement. Federal legislation governing the administration of any federal student financial aid program requires that a student make satisfactory academic progress toward a certificate, degree or transfer program leading to a bachelor's degree. To comply with this regulation, the following standards of satisfactory academic progress have been established. All recipients of all financial aid programs, including state and institutionally funded programs, are subject to these standards for renewal of their financial aid eligibility. Some JCCC institutional programs have additional or more stringent renewal criteria.

Satisfactory academic progress evaluation is related to cumulative JCCC and transfer credit coursework as it appears on the student's official academic transcript and will occur at the end of each enrolled semester. Any classes taken during any summer session (within the same summer) are viewed as one enrolled term. Only credit courses are considered for satisfactory academic progress evaluation.

The minimum standards of satisfactory academic progress are evaluated by the following criteria:

Grade Point Average Requirements

Students must attain a minimum cumulative G.P.A. based on the total number of credit hours completed. JCCC and transfer hours are considered. The minimum standards are:

1 to 30 successfully *completed* credit hours must have a minimum *cumulative* 1.7 G.P.A.

31 to 97 successfully *completed* credit hours must have a minimum *cumulative* 2.0 G.P.A.

Percentage of Completion Requirements

Students must *successfully* complete 66 percent of all credit hours *attempted* as they appear on their official academic transcripts, up to a maximum of 97 attempted credit hours. Students attempting more than 97 credit hours (including JCCC and transfer credit hours) will not be eligible to receive financial aid. This includes all enrollment periods, whether or not financial aid was requested or received.

Note: Courses in which a grade of "F" (failure), "I" (incomplete), "W" (withdrawn) and "R" (repeated) are recorded are counted as total hours attempted but not completed. Of these grades, the "F" is the only one included in the computation of the cumulative GPA. Self-paced courses that are not completed by the end of the semester in which the student enrolled will be recorded with a grade of "I" until the course is completed. An incomplete self-paced course may jeopardize financial aid eligibility in future enrollment periods. Copies of appeal forms can be found in the Financial Aid area of the Success Center on the second floor of the Student Center or on the Financial Aid Forms Web Page.

Financial Aid Probation and Ineligibility

Financial aid probation status applies to the next enrolled semester following the semester the student was determined as not making satisfactory academic progress. Students may continue to receive financial aid funding while in a probation status.

To remove probation status, the student must reinstate his or her academic good standing per the minimum criteria of satisfactory academic progress.

To remain on probation and continue financial aid eligibility during an additional "probation" status term:

1. Enroll at least half time (6 credit hours during a regular fall or spring academic term or 3 credit hours during a summer term) and

2. Complete and pass all courses with a grade of "C" or better and

3. Receive a 2.0 grade point average for the probation term.

If the student does not satisfactorily complete the above criteria, the student will be placed on financial aid ineligibility and will not receive any financial aid until satisfactory academic progress standards are attained. Students denied aid due to "ineligible" status must take credit courses at JCCC at their own expense until the minimum academic standards are met.

New Students Applying for Aid

All students applying for financial aid at JCCC for the first time will be on a probation status, "PROB1", whether or not the student has transfer credit hours. To establish a satisfactory status, the student must meet cumulative minimum standards of a 1.7 G.P.A. for the first 1 to 30 credit hours attempted and a 2.0 G.P.A. for 31 to 97 attempted credit hours and complete at least 66 percent of all attempted credit hours. (Note: Clock hours are computed as credit hours for Satisfactory Academic Progress purposes.) If minimum satisfactory academic standards are not met, the student will be placed on financial aid ineligibility. Note: Probation or ineligible status may be retroactively incurred based on evaluation of the student's previous JCCC and transfer credit hour academic history. All JCCC courses previously taken, as well as all transfer hours, will be considered in the satisfactory academic progress process.

Satisfactory Academic Progress Appeals

Students may appeal their satisfactory academic progress status by completing and submitting a written appeal form to Student Financial Aid. Forms are available from this office (or on the Web)and must be submitted with appropriate documentation. Appeals may include unusual circumstances that have affected the student's academic performance. Appeals are reviewed by the Student Affairs subcommittee; the committee's decision or recommendation is final. If the appeal is approved, the student's financial aid eligibility will be reinstated with a "probation" status. If the appeal is denied, the student will remain in "ineligible" status and must pay for education costs.

Refund Policy

Refund Policy

A refund may result when a student officially withdraws from all classes, drops out, is expelled or otherwise fails to complete the period of enrollment.

Institutional Refund Policy

For federal aid recipients attending JCCC, a portion of Title IV grant or loan funds, but not federal work-study funds, must be returned to the Title IV programs (which includes Federal Pell Grant, Federal SEOG, Federal Perkins Loan, Federal Stafford and Federal PLUS loans) upon a Title IV recipient's (the student's) withdrawal from school. This means that if a federal aid recipient attending JCCC withdraws from all of his or her classes prior to the end of the semester, the Student Financial Aid office must use a federal formula to determine what percentage of the student's aid must be refunded to the federal government. The student may then be required to pay the funds either to JCCC directly or the Department of Education.

Also refer to the Board Policy Refunds 312.02.

Withdrawal Date

The day the student withdraws is the date used in the calculation. To calculate the amount of Title IV assistance earned by a student, the school must first determine the percentage of Title IV assistance the student has "earned." until and including the 60 percent point, the percentage of assistance earned is equal to the percentage of the period of enrollment (specific semester) that was completed as of the day the student withdrew. The enrollment period is based on the number of calendar days from the beginning of the semester until the withdrawal date divided by the total number of calendar days in the semester.

If a student has received more grant or loan assistance than the amount "earned" (percentage of the semester the student was enrolled), the unearned funds shall be returned to the federal programs. If a student withdraws after completing at least 60 percent of the semester, it is assumed the student earned 100 percent of the Title IV aid for that semester. Once the calculations are completed, a student will receive written notification of the dollar amounts returned to the federal program and whether it is necessary for a student to make any additional payments to the federal government or to JCCC.

For students receiving financial aid, the refund will be repaid to the appropriate fund according to the following distribution priority, which is statutorily prescribed.

1. Unsubsidized Federal Stafford Loan

2. Subsidized Federal Stafford Loan

3. Federal Perkins Loan

4. Federal PLUS loan

5. Federal Pell Grant program

6. Federal SEOG program

7. Other Title IV aid programs

8. Other federal sources of aid

9. Other state, private or institutional aid

Repayment of Funds

A repayment obligation occurs if the funds the student received for education expenses exceed the education costs for the portion of the term the student completed. If the "earned" percentage of the student's aid is less than the disbursed aid, the student will be responsible for repaying those funds to the Title IV federal programs. Johnson County Community College will notify students of any overpayment obligation, and it is the student's responsibility to make prompt repayment. Students who fail to repay will not be eligible for additional financial aid funds at any institution until the obligation has been met.

Services and Activities for Students

Campus Services

Bookstore
Dining Services

Cosmetology Salon

Dining Services

Massage Therapy Clinic

Department of Public Safety

Academic Support Services

Student Life and Leadership

Student Support Services

Academic Support Services

Academic Achievement Center - The Academic Achievement Center (AAC)
offers 13 credit courses in a self-paced
laboratory setting. These courses include study skills, reading, vocabulary,
spelling,
basic arithmetic, and algebra preparation. The center also offers Medical
Terminology
to meet the needs of students in health career fields.

ACT Center
Barbara Gill Lifetime Fitness Center -

Lifetime Fitness and Wellness is not a traditional class, but a way of life. During
the semester you may have opportunities to exercise in the Fitness Center and
learn more about "Wellness for Life" at lectures and through hand-outs.

Billington Library -

The Billington Library serves JCCC students and staff and Johnson County
residents by providing access to services and resources that support and
strengthen the instructional programs of the college and the higher education
needs of the community.

CASE Classroom -
In order to accommodate the incorporation of cutting-edge technology into the
sciences classroom environment, the CASE classroom has been established as a
test-bed and resource-center in educational technology. Available to science
students and faculty, the CASE classroom provides instructional materials in the
form of computer software, audiovisual media, Internet resources and technical
expertise.

Computer Labs -

Any currently enrolled credit student at Johnson County Community College with
a valid student ID may use the labs. The equipment and/or software may be used
only for college-related activities (e.g., class projects, papers). Use of the
equipment for profit-making activities or playing games is prohibited.

English as a Second Language -

JCCC provides four programs to assist the community and businesses with
English as a Second Language.

 - Life Skills (ABE/GED/ESL Project Finish)

- Intensive English Program

- ESL Advanced and Professional

- Business Language Services

Human Anatomy Open Lab -
The purpose of the Biology Resource Center is to provide life science students the opportunity for independent study of anatomical and zoological models outside of regularly scheduled class time. The extensive collection of highly detailed models is an excellent resource for the study of human anatomy and physiology, as well as zoology and botany.

Intensive English Program -

The IEP serves non-native English language learners who desire to improve and strengthen their academic English skills in order to obtain a degree from a U.S. college or university.

Language Resource Center -

The Language Resource Center (LRC) serves students and faculty from International Languages, Interpreter Training and Speech. These students may be from the JCCC campus or from the College Now program that serves students from area high schools.

Learning Strategies Program -

The Learning Strategies Program helps students meet the challenges of college coursework and become more effective and efficient learners. This program is designed for any student who wants to build confidence and skill in learning and improve course grades and overall grade point average. The program teaches thinking, learning and self-management strategies necessary for success at the college level. These include textbook strategies, listening and lecture note-taking strategies, exam strategies, organizational strategies and time-management strategies. Because all strategies are practiced on materials relevant to students' current classes, it is necessary for students to be enrolled in at least one other college course.

Math Resource Center -

Any student enrolled in a course offered by the JCCC math department may use the Math Resource Center, located in CLB 212. Free assistance is available from the Math Resource Center tutors every hour the center is open.

Project Finish -

Adult Basic Education is offered through Project Finish, an educational program sponsored by Johnson County Community College and the Johnson County Library. ABE/GED instruction is offered in five locations throughout Johnson County. ESL instruction is offered at three locations.

Service Learning - The Service Learning program is curriculum-based and integrates service options (at schools, care facilities, agencies and organizations in the community) with academic coursework and structured reflection. As a form of experiential education, service-learning assignments facilitate intellectual, personal, career and civic development.

The Writing Center -

The Writing Center offers free tutoring and numerous writing resources including computer software to help with grammar. The JCCC Writing Center is a free student and community support center created to assist writers with reviewing, refreshing, and upgrading their writing skills. Students may bring in writing assignments and receive individualized feedback on their drafts. Tutors are trained to read the essays for organization and development. Students who need to work on proofreading skills may take an assessment test, which will assess their ability to find mechanical errors, or they can bring in a graded paper and the tutors will help them correct their errors. Then students may work at computer programs to improve those skills. Also available are a variety of handouts and resource books to help students discover the format and best organization for

writing.

Student Life and Leadership

Alumni Association

The JCCC Alumni Association, with its more than 20,000 members, is dedicated to promoting and supporting the college and maintaining the unique bond that exists between alumni and JCCC. Association activities are managed through the JCCC Foundation. More information is located on the Web at this site: http://www.jccc.net/home/depts/003200.

Intramural Athletics

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

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

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

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

Brown and Gold Club

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

Membership requirements:

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

For more information, contact the Brown & Gold office, 200 COM, or call 913-469-8500, ext 4305.

Campus Recreation

The intramural/recreation program at Johnson County Community College incorporates competitive play in team and individual sports, as well as opportunities for "free play" through the open gym program. Schedules for intramural competition and open gym can be obtained at the Student Information Desk, first floor, Student Center, or the 003 GYM information desk. Participation in these programs provides JCCC students opportunities for physical development and social interaction.

Student Clubs and Organizations

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

privileges afforded other JCCC clubs.

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

A complete listing of approved clubs and organizations or applications to form a new club may be obtained from the Student Activities and Information Desk, first floor, Student Center.

Dance Team

In support its athletic programs, JCCC offers a dance team. The The JCCC Dance Team participates at all home basketball games and select away games. For tryout information and scholarship requirements, contact the Student Activities Information Desk, first floor, Student Center.

Debate

College debate teams participate in state, regional and national competitions. The JCCC Debate Teams have won wide recognition for their outstanding record in competition with both community colleges and upper-division universities. For more information contact the Student Activities Information Desk, first floor, Student Center.

Music Performance Ensembles

The music department at JCCC offers a wide variety of performance ensembles available for students. For instrumentalists, there are the Music Masters Concert Band, the Midnight Express Jazz Ensemble and various chamber ensembles and jazz combos. For vocalists, there are the Chamber Choir, Midnight Blues Vocal Jazz Ensemble and select mixed vocal ensembles. All of these ensembles perform on and off campus during the course of each semester. Membership in these ensembles is by audition with the vocal and instrumental professors. For information, visit our Web site at Music Performance Ensembles, http://www.jccc.net/home/depts/1109, or contact Ron Stinson, 913-469-8500, ext. 3275, or e-mail rstinson@jccc.net.

Phi Theta Kappa - Honors

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

To be invited to become a member of Phi Theta Kappa, you must be currently enrolled. An invitation to become a member will be extended at the beginning of the fall or spring semester to all full-time and part-time students who have completed 12 hours of credit toward a degree or certificate at JCCC with a cumulative grade point average of 3.5 or above. For more information, contact the Honors office in 200 COM or call 913-469-8500, ext. 3305.

Student Ambassadors

The JCCC Student Ambassadors are a group of six current JCCC students who work in Admissions and give tours for prospective students. In addition, the ambassadors respond to requests for information and assist with other Admissions functions. Students apply for the positions through the Human Resources office. Students in this position must maintain full-time student status throughout the year.

Student Events and Programs

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

Activities are planned and implemented entirely by students for students through the committee structure of the Campus Activities Board. Activities include films (feature and captioned), special events (comedians, novelty acts, blood drives and thematic programming), recreation (off-campus outings, intramural competition, student gatherings and sports events), lectures (controversial issues and distinguished speakers), and concerts (bands, solo artists and karaoke).

More information can be obtained at the Student Activities Information Desk, first floor, Student Center, or on the Web at Student Events and Programs, http://www.jccc.net/home/depts/5201.

Student Newspaper (The Campus Ledger)

The Campus Ledger is the award-winning student newspaper authorized by the board of trustees and published regularly throughout the academic year. The Ledger provides students and other members of the college community a free and open forum for responsible news and commentary concerning campus life. News, features, entertainment, sports, campus events and editorial concerns are emphasized in each issue. Staff members are paid salaries and must be enrolled in a minimum of six credit hours each semester. Students interested in working for The Ledger should stop by the news office in 260 Commons and check job postings in Human Resources.

Student Senate

The Student Senate exists to provide a method of government representation for all students at JCCC and allocates funds in support of student clubs and organizations. The senate is made up of 25 senators-at-large and five executive board members. Executive board members are the president, vice president, secretary, treasurer and parliamentarian, all of which are scholarship-receiving positions. Elections for executive board positions take place in the spring semester, with senator elections occurring in the fall. Student Senate meetings are held on Mondays at noon.

Theatre

JCCC's theatre department presents several full-length productions each year, ranging from Shakespeare to touring children's plays to musicals to comedies and serious drama. Auditions are open to all students. Scholarships are available for participation. Students who are interested in scholarships should participate in the mid-spring auditions.

Student Support Services

The Mission of Student Services

The Success Center is a one-stop shop for all student needs, including admissions, registration, records and financial aid.

Access Services for Students with Disabilities offers Disability and Deaf/Hearing-impaired Student Support Services.

Career Services' mission is to prepare students, alumni and community members to be competitive and accomplished in identifying, acquiring and retaining meaningful careers.

The Hiersteiner Child Development Center is a nonprofit, college-run care service dedicated to serving the needs of young children by providing a high-quality early childhood program within a safe, nurturing environment.

Counseling and Advising Services takes an active role within each student's learning environment by facilitating the process of educational, career and personal decision making in a professional and caring manner.

Testing Services provides a variety of services including administration of assessment tests for all students enrolled in credit courses. Other types of tests include proficiency tests, telecourse tests, distance learning tests, and instructor

make-up tests for students who have missed a regularly scheduled exam. In addition, the center administers standardized tests such as the ACT, CLEP, GED and others.

Academic and Student Policies and Procedures

Academic Progress

Academic Records Information

- Academic Records Retention
- Academic Renewal
- Access to Student Information
- Attendance
- Auditing a Class
- Commencement Information
- Courses by Arrangement
- Credit Transferred from Other Colleges
- Final Examinations
- Grade Information
- Honors
- Records on Hold
- Transcripts
- Verification of Enrollment

Advanced Standing Credit

- Prior Learning Assessment
- Portfolio or Certificate Evaluation
- Military Credit
- National Standardized Tests
- Proficiency Examinations

319.01 Student Code of Conduct

Appeals and Process for Filing Complaints

- Alcoholic Beverages
- Assault and Battery
- Assembly
- Cheating or Plagiarism
- Campus Computing Systems
- Contracts
- Counterfeiting and Altering
- Discrimination or Harassment
- Disruptive Behavior
- Severe Disruption/Acts of Violence (Clear and Present Danger)
- Drugs
- Electronic Devices
- Student Electronic Mail
- Gambling
- Dumping and Littering
- Safety
- Smoking
- Theft/Vandalism
- Weapons

- Violation Notice
- Process to File a Disciplinary Complaint
- Student Right to Know

Parking

- Handicapped Parking
- Bicycles
- Skateboards and Roller Blades

Public Safety and Security

- Annual Crime Statistics
- College Resource Officers
- Emergency Telephone Messages, Access to Students
- Lost and Found
- Non-students in Classroom
- No-Smoking Policy
- Reporting Accidents, Incidents or Crimes
- Unlawful Discrimination or Harassment Complaint or Procedure
- Unattended Children

Student Health

Academic Progress

Academic Progress

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

- If you enroll in courses offered through contract arrangements between JCCC and an outside agency.
- If you enroll in courses that have been especially designed for specific populations.
- If you attend on a part-time basis, up to attempting 12 credit hours.

Thereafter, all part-time students must meet these criteria:

Any student whose cumulative grade point average falls below the following guidelines will be placed on academic probation and will remain on probation until the minimum cumulative G.P.A. levels outlined below are met. Cumulative grade point averages include both transfer and JCCC G.P.A.

1 to 30 credit hours attempted with a grade of A, B, C, D or F or W requires a cumulative G.P.A. of 1.7 or higher.

More than 30 credit hours attempted with a grade of A, B, C, D or F or W requires a cumulative G.P.A. of 2.0 or higher.

If you have been placed on academic probation or were on academic probation the previous semester, you must raise your G.P.A. to the required cumulative level to be released from probationary status.

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

Your records will be placed on hold and will not be released until grades have been posted for the current semester. If you are on academic probation, you will be allowed to enroll during continuing student enrollment only after meeting with a counselor by a date to be specified in the academic probation letter or when your semester grades are posted and one of the academic progress conditions is met. To participate in continuing student enrollment, you must achieve a 2.0 G.P.A. for the current term or raise your G.P.A. to the level required for good standing or you will be dropped from the classes in which you have enrolled and will be placed on suspension as described below.

If you do not raise your G.P.A to the level required for good standing or achieve a 2.0 G.P.A in the probationary semester, you will be suspended from the institution and will not be reinstated until one semester has elapsed. If you are academically suspended by JCCC, you will not be allowed to reenter JCCC for at least one semester. You will be readmitted on probationary status and must maintain a 2.0 G.P.A. each semester while on probation or raise your cumulative G.P.A. to the designated level. As a reinstated student, if you are suspended a second time from JCCC, you cannot return for one full year.

If you are academically suspended from JCCC, you may submit an appeal to the vice president of Student Services. Appeals must be in writing. Results of the committee's decision will be mailed to you 30 business days after receipt of the appeal. For the purposes of this policy, a business day shall be a weekday during which regular classes are being held at the college. The decision for this appeal is final.

If you are receiving financial aid, you must meet the academic progress standards in the student financial aid handbook. These requirements may not be the same as the academic requirements to remain enrolled at JCCC.

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

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

Academic Records Information

Records Information

Academic Progress

- This academic progress policy provides the guidelines for continuing enrollment at the college.

Academic Records Retention

- Information regarding the types and length of time student records are retained.

Academic Renewal

- Academic renewal refers to the opportunity for a fresh start at the undergraduate level at JCCC.

Access to Student Information

- Student rights concerning access to education records are

explained by laws and regulations.

Attendance

- Policies and guidelines for class attendance that outline student's responsibility, penalties and how attendance can effect grades, tuition and financial aid.

Auditing a Class

- Provides information about enrollment, tuition, class credit and who is eligible to audit classes.

Commencement

- Diplomas and certificates will be awarded when program requirements are completed.

Courses by Arrangement

- Some classes at JCCC are available "by arrangement" such as independent study and self-paced study.

Credit Transferred from Other Colleges

- Transfer credits from colleges and universities and their articulation.

Final Examinations

- Information about the final examinations and schedules are provided.

Grade Information

- Grading system, grade changes, G.P.A. Information.

Honors

- Requirements, awards and recognition for honor designation.

Records on Hold

- Information regarding holds on student's records and their effect.

Transcripts

- How and when academic record information will be released as transcripts.

Verification of Enrollment

- Requests for verification of enrollment for health insurance, good student discounts (car insurance) and housing (apartments) must be made in writing.

Academic Records Retention

When students apply for admission to JCCC, an application record file is created. This file contains academic transcripts, academic program plans and various other documents. This imaged file is maintained by Enrollment Management indefinitely, beginning with the spring 1999 semester. Although records will be stored in an imaging system, students may need to supply an updated application or transcripts if they do not maintain continuous enrollment.

More information is available from Admissions.

Academic Renewal

Academic renewal refers to the opportunity for a fresh start at the undergraduate level at JCCC. Sometimes a prior academic record presents a major obstacle to a student's overall G.P.A., and overall success. Students may apply for academic renewal by submitting a written application according to the following guidelines:

1. All credits taken five or more years ago will not be calculated in the G.P.A. (from all colleges or universities) based on the semester applying for academic renewal.

2. At least 12 semester credits must have been completed at JCCC within the last two years. The G.P.A. for all coursework taken during this time must be at least 2.0.

3. Academic renewal will be granted only once.

4. Academic renewal does not affect or alter a student's record for financial aid awards or athletic eligibility.

5. All previous coursework and original grades approved for academic renewal will continue to appear on a student's transcript. However, the credits and grades will not be included in the student's cumulative totals when applying for selective admission programs at JCCC, admission to honors programs or clubs governed by JCCC policy and/or graduation from JCCC.

6. Credits not being calculated as a result of academic renewal cannot be used to meet course or program prerequisites or graduation requirements.

7. Students must meet with a counselor before applying for academic renewal to ensure that interpretation of this policy is correct.

8. This policy applies only at JCCC. Students who transfer from JCCC to another institution will need to follow the receiving institution's policy.

Access to Student Information

Student rights concerning access to education records are explained in the Family Educational Rights and Privacy Act (FERPA) of 1974. The law and regulations require educational institutions to:

1. Provide students the opportunity to inspect their education records. If students wish to see their records, they should contact the JCCC Admissions office.

2. Provide students the opportunity to challenge through a hearing the content of their education records if they believe the records contain information that is inaccurate, misleading or in violation of the right of privacy. (Grades are not subject to challenge.)

3. Limit disclosure of information from student records to those who have the student's written consent or to officials specifically permitted within the law, such as college officials and under certain conditions local, state and federal officials.

4. Provide degree and enrollment verification information to the National Student Clearinghouse for the purposes of providing to an employer or

background-screening firm verification information of student status. Information regarding the National Student Clearinghouse can be found at the following Web site, www.studentclearinghouse.org, or phone number 703-742-4200.

One exception that permits disclosure without consent is disclosure to school officials with legitimate education interests. A school official is a person employed by the college in an administrative, supervisory, academic, research or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the college has contracted (such as an attorney, auditor or collection agent); a person serving on the board of trustees; or a student serving on an official committee such as a disciplinary or grievance committee or assisting another school official in performing his or her tasks.

Attendance

It is the policy of JCCC that punctual attendance at all scheduled classes is regarded as integral to all courses and is expected of all students. Each JCCC faculty member will include attendance guidelines in his or her course syllabus. Students will be responsible for knowing and adhering to those guidelines. Penalties for excessive absences may include a grade reduction. It is the student's responsibility to obtain class materials missed because of absence.

Students who, by the end of the second week of the semester (prorated for classes less than 16 weeks in length), have not attended at least one session of each course in which they are enrolled will automatically be dropped from those courses not attended, with no refund of tuition and fees. Students enrolled in distance learning courses will be dropped if they do not fulfill the initial requirements established for the course(s).

Students who are under obligation to participate in jury duty, a generally recognized religious observance or activities where they are required to represent the college must give written notice to the faculty member at least one week in advance of the observance. If there are questions regarding whether a religious holiday is recognized or an activity is college-sponsored, direct them to the office of the vice president of Student Services and/or the Student Affairs Committee. Students shall be accorded the opportunity to independently make up coursework or work of equal value for the day(s) the event was scheduled and take a scheduled exam at an alternate time determined by the instructor. Failure to provide timely written notice may result in loss of this opportunity. Students should be aware that the quality of their learning experience may suffer as a result of their absence if coursework is not made up.

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

If students receive benefits from a government agency, they must follow any policy the specific agency stipulates. Lack of attendance may affect financial aid.

Auditing a Class

Auditing a course means a student attends a class regularly without being required to take exams, complete assignments or perform other tasks required by the instructor. Students receive no credit for courses completed by auditing. Each department may determine if a class may be enrolled in for audit purposes. Registering to audit a class does not constitute continuous enrollment for graduation purposes. Credit registration cannot be converted to audit status at any time, and audit registration cannot be changed to credit registration.

Tuition and fees for audited classes will be assessed at the same rate as that charged for enrolling in credit courses. Financial aid will not pay for courses completed by auditing. You may enroll to audit a class if space is available after open enrollment has ended, according to the schedule published in the schedule of credit classes. Brown & Gold Club members auditing a class are not eligible for reduced tuition and fees.

Commencement

Students will be awarded a diploma or certificate when they have successfully completed their program requirements. These awards will be issued at the end of each semester or session. Commencement will be held only once a year in May.

If students completed degree or certificate requirements in previous semesters or terms during that academic year, they will be invited to participate in commencement exercises. Diplomas are mailed shortly after degree and/or certificate verifications are completed.

Courses by Arrangement

Some classes at JCCC are available "by arrangement" with an instructor. The student and instructor meet and agree to a semester schedule that may involve regularly scheduled meetings and assignments or alternative projects, depending on the specific course requirements and content. Before enrolling in a class by arrangement, students should contact the instructor (or the division administrator) to see if this opportunity is available for the specific course they desire. The selection of classes by arrangement is limited.

Independent Study

By enrolling in independent study, students may explore in depth an area not covered in the regular curriculum. A student must show above-average performance in the area to be eligible, and a faculty member must agree to work with the student. For details, students should contact the division administrator for the area in which they are interested.

Self-paced Study

These courses are designed for students who have high levels of self-motivation, self-discipline and organizational skills; they should not be taken as a substitute for late-start sections of the equivalent course. With self-paced study, students may set their own pace of learning to complete the class requirements as rapidly or as leisurely as they care to within the one-year limit.

Enrollment requires completion of a self-paced study contract, which may be obtained in the program office listed for the course along with a section approval waiver from the department. The student is required to meet with the sponsoring instructor to complete the contract and obtain class materials prior to enrollment in the course. The student then must come to the Success Center, second floor, Student Center, to enroll in the course within two weeks from the date of the waiver. If the student waits more than two weeks to enroll, he or she may be asked to get a new waiver. The enrollment deadlines for a self-paced class for each term are:

fall semester - November 1

spring semester - April 1

summer session - July 1

Refunds / Withdrawals in a Self-paced Class:

1-2 weeks - no "W" and 100 percent refund

3-5 weeks - no "W" and 80 percent refund

6-10 weeks - no "W" and 0 percent refund

After 10 weeks - "W" recorded and 0 percent refund

The last date to withdraw from a self-paced class will be accepted prior to six months from the date of the waiver by completing an add/drop form in the Success Center, second floor, Student Center.

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

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

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

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

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

Credit Transferred from Other Colleges

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

Final Examinations

Final examinations are scheduled during the last week of the semester. The final examination schedule for the fall and spring semesters is available during the last three weeks of the semester in the Student Success Center, division and program offices, the credit schedule and on the Web at http://www.jccc.net under Calendars and Events.

Final Exam Schedules

Final Exam Schedules

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Grade Information

Grading System

Johnson County Community College uses the following grades to indicate the level at which a student has achieved the education objectives of a class:

A - outstanding achievement of objectives

B - highly satisfactory achievement of objectives

C - adequate achievement of objectives

D - passing, marginal achievement of objectives

P - passing (credit earned, but not calculated into, your G.P.A.)

F - no credit, unsatisfactory achievement

W - withdrawal without academic assessment

Students may withdraw from a class no later than Nov. 15 for the fall semester and April 15 for the spring semester (prorated for classes less than 16 weeks in duration). Students will receive a "W" on their transcripts, if they withdraw after the official state reporting date of the 20th day of class during a regular semester or after one-fourth of a summer or mini-session has been completed. Students will be considered withdrawn from a class only after they have officially completed the withdrawal process, not when they stop attending class. Students may drop courses in person in the Success Center or via the Web enrollment process.

I - Incomplete

Students will receive a grade of "I" only if special circumstances prevent them from completing the class. Students must make arrangements with the instructor before semester grades are submitted and must sign a statement agreeing to complete the class requirements. All class requirements must be completed by the deadline indicated on the agreement. An "I" will be changed to an "F" if the student does not successfully complete the work by the deadline established by the instructor, which can be no later than the end of the next full semester following the grading period for which the "I" was given. The instructor is responsible for initiating a grade change when a student successfully completes the work outlined in the agreement. During the semester a student is completing the "I" contract, the student cannot re-enroll in the class, nor is the student considered currently enrolled on the basis of the "I" grade from the previous semester. Students may not withdraw from a course in which an "I" has been assigned.

R - Repeated Class

When students repeat a class, the latter grade earned will be used in computing their cumulative G.P.A. Prior to spring 1995, an "R" replaced the earlier grade on a student's transcript. Beginning spring 1995, the "R" is no longer be used and the original grade remains on the transcript with a special notation of an "E" (repeat indicator), which excludes the grade from the cumulative G.P.A. The latter grade will have an "I" indicator, which includes the grade in the cumulative G.P.A. Students may not enroll in any course for the third time without counselor approval. Students cannot use advanced standing credit to repeat a class.
A "W" grade will not be changed or removed from the transcript.

X - Audit Status

No credit is awarded for an audited class.

Pass/Fail Grading System

Students must meet with a counselor, complete the appropriate form and submit it to the Success Center before Nov. 15 of the fall semester and April 15 of the

spring semester. For classes less than 16 weeks in length, a student may complete the appropriate form up to completion of three-fourths of the class. Students are allowed to enroll in only one class each semester under this option. Grades earned under the option are a "P" if your assigned grade is "A", "B", "C" or "D." If an "F" grade is assigned, an "F" grade will be recorded. If you choose to withdraw, a "W" will be recorded. Some programs may designate certain courses are unavailable for the pass/fail grading option.

Once this option has been filed, it may not be changed back to the "A-F" system.

Note: Some schools, scholarship committees and honorary societies do not accept this grading system and may convert grades of "P" to "C" when computing G.P.A. or in some other way penalize a student who has chosen this grading option.

Grade Changes

Grade changes and withdrawal appeals must be submitted in writing to the office of Enrollment Management within one semester of a student's initial enrollment in the course. Additional information and forms may be obtained in the Success Center.

Grade Point Average (G.P.A.)

A - 4 grade points a semester credit hour

B - 3 grade points a semester credit hour

C - 2 grade points a semester credit hour

D - 1 grade point a semester credit hour

F - 0 grade points a semester credit hour

In calculating grade point averages, the hours with grades "P," "W," "I" and "X" or designated "R" will not be counted as hours attempted. Beginning spring 1995, the "R" grade is no longer be used; however, the original grade and credit hours of a repeated course will be excluded from hours attempted. Courses with grades of "F" will be counted when figuring grade point averages.

Honors

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

Graduation with Honors (for associate's degrees) - If you earn 30 hours at JCCC and have a 3.5 or higher cumulative grade point average in all JCCC hours attempted, you will be graduated with honors. JCCC hours and/or cumulative G.P.A. will be used to calculate honors designation.

Graduation with Honors (for certificates) - If the certificate totals 24 hours or more and you have a 3.5 or higher JCCC G.P.A., you will graduate with honors.

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

Civic Honors Program - The civic honors program combines coursework, training, organizational activities, community service and reflection. Students who meet the qualifications will be able to graduate with civic honors, recognizing their efforts and achievements within the community. Civic Honors students will receive special recognition at the commencement ceremony. Refer to the Service Learning website at http://www.jccc.net/home/depts.php/3317.

Records on Hold

If a student's records have been placed on hold for any reason, such as library books due or failure to pay for parking violations, the student will not be allowed to do any of the following until the hold is removed:

1. Drop or add any class during the semester.

2. Enroll in courses in subsequent semesters.

3. Obtain a transcript.

4. Receive a diploma or certificate.

A hold on a student's records due to a financial obligation to JCCC will stop the student from doing any of the above four activities, as well as from any verification processes of student status, graduation or other student information.

Contact the Success Center for more information. Appeals to this policy should be made to the registrar.

Transcripts

Records will maintain your academic record of coursework completed at the college. Transcripts will be released only after receipt of your signed written request. Transcripts issued to you will be marked "Issued to Student." Those transcripts requested by fax will be treated as daily mail and not given priority treatment. There is no fee for official transcripts.

Transcripts will not be released if your records are on hold.

Transcripts with Holds

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

Verification of Enrollment

Verification of Enrollment

Requests for verification of enrollment for health insurance, good student discounts (car insurance) and housing (apartments) must be made in writing. Students may either complete a verification of enrollment form in the Success Center or write a letter and fax or mail it to the JCCC Records office with the following information:

1. Full name

2. Student Identification Number

3. Date of birth

4. Semester(s) to be verified

5. For health insurance, parent name and Social Security Number for identification

6. Complete mailing address

7. Student's signature

Faxes will be treated as daily mail and not given priority treatment.

Requests for student loan deferment verifications will no longer be verified by JCCC. The National Student Clearinghouse has been authorized to do these verification. All forms received will be mailed directly to them for processing. Degree enrollment verifications for employment purposes will also be directed to

the National Student Clearinghouse for verification.

Current semester enrollment verifications can be requested after classes have been in session for one week. Verifications will not be completed for those students with financial obligations to JCCC.

Substitute House Bill 1022, passed by the 1993 Kansas Legislature, changed requirements for the concurrent enrollment of high school students in community college courses. Under these requirements, the college is able to provide verification to the high school that the student is attending and making progress in the college course.

If students are home schooled, the same information may be released to the home school administrator. If students have questions regarding this policy, they should contact the office of the vice president of Student Services.

Advanced Standing Credit

Students may earn up to 30 hours of advanced standing credit through nontraditional options. This credit may be applied toward a degree or certificate program at JCCC, but will not satisfy the residency requirement for graduation. To apply for advanced standing credit, you must be currently enrolled or have been enrolled at JCCC previously. Advanced standing credit, with the exception of transfer credit, will be included on your permanent record after six credit hours have been successfully completed at JCCC. Exceptions to the application transcripting policy may be made for specific certificate/career programs. Students may not be enrolled in the class for which they are applying for advanced standing credit.

Credit will not be awarded if:

- you have received a grade for college classes representing the same content (advanced standing credit cannot be used to repeat classroom credit).
- you have been awarded credit through other nontraditional programs in areas representing the same content.

Prior Learning Assessment

Testing Services coordinates the programs that lead to advanced standing credit and maintains current advanced standing credit guidelines for each option. A fee will be charged for advanced standing credit (PLA) evaluation.

Portfolio or Certificate Evaluation

You may be granted credit if you have acquired, through experiential learning, knowledge and skills equivalent to those obtained in college classes. Credit may be awarded only in subject areas in which JCCC offers equivalent classes and where portfolio or certificate evaluation is an option. A fee will be charged.

Military Credit

You may be granted credit for education experience completed while in the armed services if you have completed basic training. Applicants submitting DD form 214, Armed Forces of the United States Report of Transfer or Discharge (or equivalent), may receive credit and advanced placement as recommended by the American Council on Education if their experience is equivalent to the course(s) offered by JCCC.

National Standardized Tests

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

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

Proficiency Examinations

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

More information is available at http://web.jccc.net/academic/testing/, click "Testing Out."

319.01 Student Code of Conduct

Johnson County Community College

Series 300: Student Personnel

Section 319: Student Rights and Responsibilities

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

1. Alcoholic beverages - Students at JCCC are required to follow all local, state and federal laws pertaining to the consumption of alcohol. No student shall consume or possess any alcoholic beverages, beer and/or wine, on any college-owned or college-operated facility or at any college-sponsored event or activity either on or off campus. Specifically, service learning trips, internship experiences or any off-campus JCCC sponsored gathering of a student or students are subject to these conditions. Since participation in college-sponsored programs is considered a privilege and not a right, students are expected to adhere to all conditions of such participation. This includes, but is not limited to, behavioral conditions as described in contracts/agreements for athletic, academic and extra-curricular scholarships, and participation in other extra-curricular activities.

2. Assembly - No person or persons shall assemble in a manner which obstructs the free movement of persons about the campus or the free and normal use of college buildings and facilities, or prevents or disrupts the normal operation of the college.

3. Assault and Battery - No student shall threaten or commit a physical or sexual assault on faculty, staff or another student or visitor. No student shall force or threaten to force another student, faculty or staff member to have sexual contact against that person's will. Any student charged with sexual assault on or off campus may be prosecuted under criminal statutes and disciplined under the campus code of student conduct. Even if the criminal justice authorities choose not to prosecute, the college reserves the right to pursue disciplinary action.

4. Cheating or Plagiarism - No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition, without permission, of tests or other academic materials and/or distribution of these materials. This includes students who aid and abet, as well as those who attempt such behavior.

(Additional examples of cheating include unauthorized sharing of answers during an exam, use of unauthorized notes or study materials during an exam, altering an exam and resubmitting it for re-grading, having another student take an exam for you or submit assignments in your name, participating in unauthorized collaboration on coursework to be graded, providing false data for a research paper, using electronic equipment to transmit information to a third party to seek answers, or creating/citing false or fictitious references for a term paper. Submitting the same paper for multiple classes may also be considered cheating if not authorized by the instructors involved. Examples of plagiarism include any attempt to take credit for work that is not your own, such as using direct quotes from an author without using quotation marks or indentation in the paper, paraphrasing work that is not your own without giving credit to the original source of the idea, or failing to properly cite all sources in the body of your work.) This includes use of complete or partial papers from Internet paper mills.

5. Computer/Campus Computing Systems - No student shall engage in the following:

a)   Intentional corruption or misuse of college computer systems.

b)   Use of systems for illegal or criminal activity.

c)   The use of campus owned and operated computer networks, systems, software and hardware, posting of materials to electronic bulletin boards, chat rooms, mail lists, or via conventional e-mail that may be offensive to others and groups, such as profanity, defamation and harassment based on gender, race, age, disability, national origin, or other basis impermissible under the law.

d)   Viewing/observing or downloading non-educational images or material that may be considered offensive to others and groups as described in "c."

e)   Use of the campus computing system for commercial or profit activities.

f)   Attempts to disrupt or support the disruption of college or external information technology services, systems, or users – disruptive activities include, but are not limited to:

- sending unauthorized mass, chain or spam mail and/or ping bombs
- knowingly transmitting any computer viruses, worms, etc.
- hosting or using open mail relays on college equipment

g)   The use of group web sites for the publication or distribution of copyrighted materials or licensed software.

6. Contracts - No student shall enter into a contract with an outside agency using the name of the college. Contracts entered into in violation of this rule shall be the personal responsibility of the student.

7. Counterfeiting and Altering - No student shall reproduce, copy, or tamper with or alter in any way, manner, shape or form, any writing, record, document of identification or any form used or maintained by the college. This shall include computerized data.

8. Disruptive Behavior - No student shall behave in a manner that is unacceptable in a learning environment or that endangers or infringes upon the rights and/or safety of themselves or other students or staff. Any obstruction or disruption of an educational process, administrative process or other campus function is prohibited. It is the responsibility of all students to cooperate fully with campus officers from the Department of Public Safety in providing valid identification upon request.

9. Severe Disruption/Acts of Violence (Clear and Present Danger) - Any obstruction or disruption of an educational process, administrative process or other campus function is prohibited. The vice president of Student Services or designated party may immediately impose an interim suspension in the event that a student's continued presence on campus poses a significant danger to themselves or others, and/or there is reasonable cause to believe that such an interim suspension is required to protect lives or property and to insure the maintenance of order. A student so placed on interim suspension shall be given prompt notice of the charges and an opportunity for an administrative appeal to the office of the vice president of Student Services within 10 days of the imposition of the interim suspension. During the period of interim suspension, the student shall be prohibited from entering the grounds of Johnson County Community College at any time, for any reason, unless otherwise approved by the vice president of Student Services. Violation of such shall be grounds for possible trespass charges and expulsion.

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

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

12. Drugs - No student shall unlawfully manufacture, distribute, dispense, possess or use a controlled substance, as defined in college policies as amended from time to time and/or as defined in the Controlled Substances Act (K.S.A. 65-4101 as amended from time to time) on any college-owned or operated property or at any college-sponsored event either on or off campus. Illicit drug usage within the context of competitive athletics can compromise the physical well-being and health and safety of the individual; therefore, all athletes who practice and compete for varsity athletic teams at Johnson County Community College will be required to participate in the college's Drug and Alcohol Abuse Prevention Program. Specifics of the drug testing procedures, list of drugs of abuse, and counseling procedures are outlined within the Student Athlete Handbook.

13. Smoking - No student shall be allowed to smoke in any enclosed indoor area of the college.

14. Discrimination or Harassment - No student shall engage in discrimination/harassment of another student, instructor, or staff member of the college. This shall include discrimination/harassment based on gender, race, age, disability, national origin, or other basis impermissible under the law. Sexual harassment is defined as conduct involving unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual or gender-based nature.

Harassment based on gender, race, age, disability or national origin includes verbal, physical or other conduct of a nature specifically offensive to a person.

Harassment based on gender, race, age, ancestry, disability, national origin, or other bases protected by law is strictly prohibited when:

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

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

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

Persons violating this policy will face student discipline up to and including suspension or expulsion. Any person believing that he or she has been subject to unlawful harassment, as set forth in this policy, should utilize the Discrimination or Harassment Complaint Procedure, as found in the Student Handbook.

15. Theft/Vandalism - No student shall engage in the theft of or damage to property belonging to another person or the college. This includes tampering with coin-operated machines.

16. Use of College Facilities - No student shall be in campus buildings except during days established in the academic calendar or during normal college hours of operation. Students wishing to utilize college facilities at times outside of normal hours of operation must secure permission from the director of Student Life.

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

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

b) any explosives, including but not limited to dynamite, nitroglycerin or any other combustible, blasting caps, fireworks, firebombs, grenades, plastic charges or devices intended for detonation purposes, and/or any other similar devices or compounds used for detonation or blasting; on any college-owned or operated property or at any college-sponsored event either on or off campus;

c) any facsimile weapon with the realistic qualities that would induce others to believe it was a real weapon.

Students who violate this policy are subject to suspension from the college with loss of all credit for the current semester and no refund of tuition and fees for the semester, as well as permanent prohibition from future enrollment or participation in college or college-sponsored activities.

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

19. Electronic Devices - Cellular phones, pagers and other electronic devices shall not be used in a manner that causes disruption in the classroom, library or

within any college-owned or college-operated facilities. This includes abuse of cellular devices with photographic capability. Utilizing these devices for the purposes of photographing test questions or other forms of academic misconduct or illegal activity is prohibited, as is photographing individuals in secured areas such as lavatories or locker rooms. Taking photographs of any individuals against their will is strictly prohibited.

20. No student shall willfully violate any published regulation of student conduct adopted or approved by the Board of Trustees. In all instances, students alleged to have violated a published regulation will be given the opportunity to present testimony and/or evidence in their defense to the dean of Student Services.

Sanctions:

The following sanctions may be imposed upon any student found to be in violation of the Student Code of Conduct and may include but are not limited to:

1. Warning: An opportunity for a student to be given a clear directive to change/modify behavior in lieu of an official disciplinary sanction being imposed.

2. Probation: A period of time during which the privilege of continuing in student status is conditional. The conditions may include, but are not limited to, loss of privileges, to which a current student would otherwise be entitled and an acknowledgement by the student that any additional violations of the Student Code of Conduct may result in more serious sanctions.

3. Interim Suspension: The vice president of Student Services or designated party may immediately impose an interim suspension in the event that a student's continued presence on campus poses a significant danger to themselves or others, and/or there is reasonable cause to believe that such an interim suspension is required to protect lives or property and to insure the maintenance of order.

4. Suspension: Separation of the student from student status from the campus for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.

5. Expulsion: Permanent separation of the student from student status from the campus.

Process to File a Disciplinary Complaint

Complaints against students by JCCC faculty, staff, other students, and members of the campus community should be directed to the office of the dean of Student Services in writing (e-mail is acceptable although a signed statement may eventually be requested) as soon as possible after the incident giving rise to the complaint. The complaint should include, minimally, the date, time, location, parties involved, and a description of the incident. Any written evidence should also be sent to the office of the dean of Student Services.

Situations requiring immediate attention of a non-emergency nature, e.g., class disruption which is likely to continue, should be reported by phone to the dean of Student Services and followed up in writing within a maximum of three days. Emergency situations requiring Public Safety or police assistance, e.g., serious disruptions, crimes, or where there is violence or the threat of violence, should be brought to the immediate attention of the JCCC Department of Public Safety at 4111. For assistance by the Overland Park Police Department or other emergency personnel, contact must first be made with JCCC 's Department of Public Safety.

All decisions made by the dean of Student Services are subject to the provisions of board policy 319.02.

Date of Adoption:

Revised: 5/26/93, 6/17/93, 6/19/97, 6/18/98, 3/23/00, 4/17/03, 3/23/04

Appeals and Process for Filing Complaints

Academic Appeals

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

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

- You are encouraged to discuss any academic concern with the faculty member directly as it occurs. Your counselor may be consulted and included in these discussions.

- Where resolution is impossible or unsatisfactory to either party, the issue should be appealed in writing to the dean or his designee, preferably within the same academic semester or term, but no later than 20 business days after the end of the semester or term. For the purpose of this policy, a "business day" shall be a weekday during which regular classes are held at the college. The dean will respond to you in writing within five business days after the meeting, describing resolution to the appeal. The Student Grade Change Appeal Form is located on the web at http://web.jccc.net/student/admissions/Forms/5105-6.pdf.

- Should you consider the response of the assistant dean an unsatisfactory resolution, you may appeal to the dean responsible for the area. To appeal, you must file with the appropriate dean, within 10 business days of receipt of the assistant dean's response, a written statement with supporting information regarding the problem. The dean will send you a written response within five business days.

- Should you consider the response of the dean an unsatisfactory resolution, you may appeal to the vice president of Instruction. To appeal, you must file with the vice president of Instruction, within 10 business days of the receipt of the dean's response, a written statement with supporting information regarding the problem. Similar written statements may be provided by the faculty member. The vice president of Instruction's decision is final. The vice president of Instruction will send you a written response within five business days.

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

Nonacademic Appeals

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

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

- You will attempt to rectify the grievance with the supervisor of the area in which the alleged violation occurred within 10 business days. Every effort will be made to resolve the grievance at the

lowest possible level.

- Where resolution is impossible or unsatisfactory to either party, the issue should be appealed in writing to the appropriate supervisor. The supervisor must inform you in writing of any decision made and the reason for that decision within five business days. If you feel the grievance has not been resolved, you may submit a written grievance to the vice president of Student Services within 10 business days from the time the complaint was filed at the previous level.

- You may submit a written grievance to the vice president of Student Services and request a conference. The vice president must, within five college working days, inform you in writing of any decision made and the reasons for making that decision. The decision of the vice president of Student Services is final. The vice president will notify the affirmative action/Title IX officer of the college in writing of any grievance involving alleged illegal discrimination, including any claim that you have been subjected to illegal discrimination on the basis of race, sex, national origin, age, religion or disability. Claims of illegal discrimination will be investigated by the designated officer who will make a report to the president.

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

Unlawful Discrimination or Harassment Complaint Procedure

Students or prospective students who believe they are the subject of discrimination or harassment prohibited by college policy should take the following steps:

1. The student should feel free to discuss the issue directly with any party participating in or allowing the conduct to occur. Students are assured that retaliation due to such complaints is also strictly prohibited and that if retaliation occurs, then discipline up to and including expulsion or termination will also occur.

2. If the student does not feel comfortable in addressing this issue directly with the offending party or parties or if such discussions do not produce a result acceptable to the student, then the student should make a written complaint as set forth below:

- The written complaint should include a specific identification of the conduct complained of and of the parties involved. The complaint should also include an explanation of why the student believes that the alleged actions or harassment is based on gender, national origin or race, or other impermissible basis. The complaint should be signed and dated.

- Students should file their written complaint with the vice president of Student Services within 30 calendar days of the time the alleged harassment or discrimination took place unless good cause is shown for delay. If the student is not comfortable speaking with the vice president of Student Services, then the student may submit the complaint to the director of Human Resources.

3. The person receiving the complaint should proceed under the following guidelines:

- The party receiving the complaint should immediately submit a copy of the complaint to the president of the college for his records. The president shall appoint two officers of the college to

investigate the complaint, and the president shall designate either the executive vice president for Academic Affairs or the executive vice president for Administrative Services to review the investigators' findings and determine appropriate action at the conclusion of the investigation. The investigators shall immediately investigate the complaint by discussing the complaint with the complainant and by interviewing any witnesses with relevant information, including but not limited to parties participating in or observing the conduct. The alleged offending party shall be given a copy of the complaint. Further, the alleged offending party may respond either by a signed written response from such alleged offending party or by a written response from the alleged offending party's attorney. Such written response to be considered by the investigators must be received by the investigators not later than seven calendar days after the alleged offending party is given a copy of the complaint. All parties in the investigation should be advised that information surrounding the complaint should be kept confidential. Witnesses and alleged offending parties should be advised that retaliation against a complainant is strictly prohibited and may lead to discipline up to and including expulsion or termination.

- The investigators shall summarize their findings in a report to the designated executive vice president. The executive vice president shall review the investigators' report and shall, if warranted, take disciplinary action or recommend disciplinary action as otherwise provided in college policies, up to and including the expulsion or termination of any person violating the policies. The executive vice president's decision on the recommendations of the investigators as contained in their written report shall be in writing. A copy of the executive vice president's report of action to be taken or recommended and the report of the investigators will be provided to the alleged offending party and the complainant within 10 working days after the executive vice president receives the report of the investigators. Any appeal by the alleged offending party of the decision of the executive vice president shall be made under the grievance section of policy 416.07 (beginning at step 3, time for filing the grievance inthis case is extended to 10 days rather than five days as provided in 416.07) and under section 416, or the master contract if a professional employee is involved, and if demotion, suspension without pay, or termination for cause is recommended. The complainant may also request a review of the report by the president of the college and the determination of the executive vice president. Such request for a review by the complainant shall be made in writing and filed in the office of the president within 10 calendar days of the date the report of the executive vice president and the report of the investigator is provided to the complainant.

- Any form of retaliation taken because of the filing of a complaint is prohibited.

- If review is sought, then the president shall review the complaint, interview the complainant and investigators, if necessary, and complete such other interviews as may be necessary to make a determination. The president shall complete the review within 10 working days unless otherwise agreed by the parties hereto. If the president finds that conduct has occurred that violates college policy, then the president may order or recommend that discipline be taken as otherwise provided in these policies. Following completion of this review, the president shall inform the complainant and the alleged offending party of his findings and

conclusions.

Appeal of any discipline taken by the college can be had pursuant to the policies as provided for herein and as set forth by the board of trustees.

The timelines set forth in this policy are implemented in order to ensure that allegations are investigated and concluded in a timely fashion so that any ongoing conduct can be immediately halted and immediate discipline taken, if warranted. The complainant may, however, agree to an extension of time, and the failure to comply with all time limits shall not invalidate a complaint or investigation or discipline.

All particulars of any complaint shall be kept confidential to the extent possible during and after investigation. Particulars of the complaint shall only be released to others to the extent necessary to fully investigate the complaint or if such information is compelled by law to be disclosed.

The college's commitment to eradication of any sort of illegal discriminatory conduct includes prohibiting actions taken in retaliation for complaining of violations of college policy. Retaliation includes taking any action that may have any impact on the terms or conditions of employment or education including, but not limited to, lowering grades, increasing discipline or assignment, demotion, changes in pay or hours, and detrimental changes in job duties or functioning, if such conduct is taken because of the individual's filing of a complaint under this policy, whether or not such complaint is determined to be valid. Such retaliation is strictly prohibited by law and by this policy and shall lead to discipline up to and including termination or expulsion. Any person believing that retaliation has taken or is taking place should immediately follow the steps set forth above for investigation and resolution of complaints.

Parking

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

Parking lots are marked with signs designating areas for students, visitors, handicapped, staff and faculty, and motorcycle and motor scooter parking. Motorcycles and motor scooters are considered motor vehicles, and their operators are required to comply with all parking and traffic regulations.

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

Unauthorized vehicles in handicapped parking spaces may be ticketed by both JCCC's Public Safety office and the Overland Park Police Department and subject to fines and fees from both institutions.

Other violations for which you will be ticketed and fined are:
- Failure to display a parking sticker, if required
- Parking in a restricted area
- Parking in posted "No Parking" areas
- Parking on the grass
- Parking in loading zones/service ares
- Parking in a way that restricts the flow of traffic
- Parking in pedestrian areas or crossings
- Parking next to the curb
- Parking beyond the 30-minute limit where such a time limit is designated
- Any other improper parking

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

Student records that have been placed on hold will be kept in the office of the vice

president of Student Services.

To view the Campus Safety and Security Report statistics in the annual report, please visit Public Safety and Security on the Web at http://www.jccc.net/home/depts/002220.

Handicapped Parking

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

Bicycles

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

Skateboards and Roller Blades

For the safety of everyone, skateboards, roller blades and scooters are prohibited on the campus. JCCC students who violate this policy will be referred to the vice president of Student Services, who will take action. Nonstudents will be referred to the director of Public Safety for appropriate action.

Public Safety and Security

Johnson County Community College maintains a Public Safety department that operates 24 hours a day, seven days a week. Officers patrol the campus in vehicles, on bicycles and on foot. Should you experience any problems while on campus, Public Safety may be called for assistance.

Students, faculty and staff at Johnson County Community College have access to academic, recreational and administrative facilities on campus. The general public can attend cultural and recreational events on campus, with access limited to the facilities where these events are held. When facilities are not scheduled for use, they are secured and all alarms activated. Access to closed facilities is on an "as needed" basis and incorporates strict key control procedures. Normal hours of operation are 5:30 a.m. to 11 p.m.

Annual Crime Statistics

The **JCCC Public Safety Annual Report**, located at this Web address, http://www.jccc.net/home/depts/002220, includes statistics for the previous three years concerning reported crimes that occurred on campus; in certain off-campus buildings owned or controlled by Johnson County Community College; and on public property within, or immediately adjacent to and accessible from, the campus.

College Resource Officers

The college resource officers at JCCC maintains a library of useful crime prevention and personal safety brochures, videos and important hotline numbers for all interested persons. Operation Identification, special seminars and crime prevention fairs are additional programs sponsored by the college resource officers. Any group desiring a crime prevention presentation may make requests by contacting the college resource officers at ext. 4492. For more information, go to the JCCC Public Safety Web site at http://www.jccc.net/home/depts/002220.

Emergency Telephone Messages, Access to Students

Notification of an emergency can be made by calling the vice president of Student Services' office at 913-469-3865 from 8 a.m. to 5 p.m. or by calling 913-469-8500, ext. 4112, after regular hours. The dean of Student Services or his representative will speak with the person requesting contact with the student. If the dean determines that the request is directly related to education reasons or presents a health or safety emergency, the dean or his representative, with support from Public Safety, will decide the best method for contacting the students.

Lost and Found

The Department of Public Safety is the central depository for all Lost and Found Property on campus. You may view items currently held in the Public Safety Property Room at the Department of Public Safety Homepage. An online form is also available to inquire about lost property. You may reach the Property Room at extension 5678 (LOST).

Clicking on the link below will list all available pages for the Department of Public Safety.

Public Safety Information

Non-students in Classroom

Only those Johnson County Community College students who have been officially admitted, enrolled and listed on the class roster may attend a specific section of a class.

No-smoking Policy

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

Reporting Accidents, Incidents or Crimes

When an incident occurs that requires you to telephone for law enforcement, medical or firefighting assistance, there are certain things you must remember to do and not do. All such incidents that happen on campus must be reported immediately to Public Safety, 913-469-8500, ext. 4111. That department is staffed to dispatch immediate aid to you, relay the circumstances of the emergency to the appropriate off-campus agency and escort police, ambulance or fire equipment to the scene.

Emergency telephones are located throughout the campus, in the parking lots and in the interior hallways and elevators of each campus building. Throughout the parking lots, emergency code-blue phones are easily identified by the blue strobe light atop each phone stand.

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

Should a criminal act occur, you should be prepared to give as much information as possible. This is especially true if the suspect has not had time to clear the campus or the immediate area. Don't disturb the scene. All reports of a criminal nature are forwarded to the local law enforcement agency for further disposition. To report a crime or incident of a nonemergency nature, dial 913-469-8500, ext. 4112.

If you are locked out of your vehicle, need a jump start or would like an escort to your vehicle, dial 913-469-8500, ext. 4112; stop by the campus communications dispatch center in room 115 of the Carlsen Center; or use any of the campus emergency phones located in parking lots and walkways.

Unattended Children

Children may not be left unattended in college hallways, library facilities, cafeteria areas or any other college sites or property.

Student Health

The college does not provide health and accident insurance for students. You must contract for this coverage on an individual basis. The college does annually conduct a formal review process in order to recommend a policy that satisfies the minimum JCCC coverage requirements. JCCC I-20 students and students attending JCCC on an J-1 visa must demonstrate proof of health, medical evacuation and repatriation coverage satisfying the minimum JCCC requirements prior to enrolling each semester.

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Index

Table of Contents