2006-2007 Catalog

Expanding Minds

Changing Lives

St. Louis Community College
Florissant Valley
Forest Park
Meramec

www.stlcc.edu
Welcome to St. Louis Community College!

In deciding to go to college, you have taken an important step toward your future. But you have many more steps and many more decisions to make.

We at St. Louis Community College are here to help you take those next steps. We can help you discover your interests and learn what career suits you. We can help you on all the steps to achieving your goal for a career or transferring to a four-year institution.

We invite you to look through our catalog. With 10 college-transfer programs and more than 90 career programs, St. Louis Community College offers you the opportunity to explore your interests and examine your options. We are your largest resource for local college transfer, career development, and job training. And most of the College’s degrees and certificates can be earned on a full- or part-time basis at an affordable cost. In addition, more than 80 percent of career program graduates are employed in their fields within six months of graduation.

Step into the community college and you’ll enter a friendly, student-centered learning environment. You will benefit from faculty members who specialize in teaching at the undergraduate level and who hold advanced degrees - master’s, doctoral or advanced licensing degrees in technical fields. Our career faculty have worked in business and industry and keep current with changes in their fields.

We will give you the counseling, academic advising and financial aid support you need to succeed. Many opportunities exist on campus to help you develop and expand your interests and find ways to contribute your talents and skills to the College and the community. Your student activity fee funds a variety of cultural, educational and athletic events and clubs in which to participate.

St. Louis Community College is the largest community college district in Missouri and one of the largest in the United States. You will attend classes with students just like yourself, no matter who you are. More than one half of the households in the St. Louis area include at least one person who has attended the College.

Now take the next step. Let St. Louis Community College help you expand your mind and change your life.

Henry D. Shannon, Chancellor

St. Louis Community College offers a challenging learning environment that points students in directions that lead to success. Since voters in St. Louis City and County established the College in 1962, nearly one million young persons and adults have attended, enriching their lives and contributing to the economic development of the metropolitan area. Each year, nearly 130,000 students enroll in college transfer and career programs; job skill, personal development and college preparatory classes; and specialized performance programs sponsored by employers.

Associate degrees in Arts, Science, Fine Arts and Applied Science are offered; as well as certificates of proficiency and specialization. The College’s Center for Business, Industry & Labor also serves the local business community through assessment, counseling, consulting and training services.

Learning is accessible through three campuses – Florissant Valley, Forest Park and Meramec; four education centers in south and west St. Louis County, Downtown St. Louis and North St. Louis; numerous business, industrial and neighborhood sites throughout the metropolitan area; and via internet telecourses, satellite downlinks and a telecommunications system.

Governed by a Board of six elected trustees and supported by local taxes, state funds and student fees, the College has an annual budget of more than $140 million. Accreditation is through the Higher Learning Commission of the North Central Association of Colleges and Secondary Schools. St. Louis Community College focuses its resources on helping students find the right academic and career pathways. Through its alumni and community partnerships, the College is helping St. Louis become the best place to live and work in the 21st century.
Unsurpassed Economic Value for Both the Student and the Community

SLCC is your best financial investment now - and a great investment for your future. Student fees at St. Louis Community College are among the lowest in the area. A large portion of instructional costs is financed by tax revenue; therefore, you pay less for a high-quality academic experience. And graduates of SLCC are the region’s best economic investment. Since 1962 nearly one million young persons and adults have attended St. Louis Community College, enriching their lives and contributing to the economic development and viability of the metropolitan area.

• Each year more than 130,000 students enroll in college transfer and career programs, job skill and personal development classes and specialized performance programs sponsored by employers.

• For every credit hour an SLCC student completes, the student will earn $116 more per year every year while in the work force.

• Students enjoy an attractive 24.2 percent rate of return on their SLCC educational investment, and recover all costs (including wages foregone while attending classes) in 6.2 years.

• Skills from current and former SLCC students increase earnings in the College’s service area by $528 million directly, and by another $410 million indirectly.

• After leaving the College, the average SLCC student will spend 38 years in the work force. The student who leaves with a two-year college degree will earn $329,854 more than someone with a high school diploma or a GED.

• For every dollar appropriated by the state and local government, student earnings will increase by an average of $1.02 per year, every year through the rest of their working lives. Likewise, for every state dollar appropriated, the College service area will see social savings of 28 cents per year, every year.

• More than 90 percent of SLCC credit and non-credit students are employed full or part time in the community while attending classes.

• The total economic impact of St. Louis Community College is more than $3 billion - the equivalent of some 85,000 jobs.

Campus Locations

Geographic accessibility to higher education is one of the cornerstones of St. Louis Community College. There are three main campuses strategically located throughout the St. Louis metropolitan area, from the very north in Ferguson at the Florissant Valley campus, to the city’s central corridor at the Forest Park campus to the southwest area of the county at the Meramec campus. In October 2005 the College broke ground for a fourth campus located in West County.

In addition, the College has four education centers throughout its service area to better serve increasing and shifting populations. Courses and programs also are offered at numerous area high schools, community centers, libraries, churches, hospitals and museums.

FLORISSANT VALLEY

The Florissant Valley campus, situated on more than 100 acres of rolling, wooded hills in north St. Louis County near I-270 and I-170, is known for excellence in engineering and technology. The campus is home to Missouri’s only two-year biotechnology program, which is a leader in providing highly skilled workers for this emerging industry. The campus also offers unique programs in chemical technology and deaf communications and has nationally recognized programs in art and childcare. The childcare program has an on-site Child Development Center, which is a national model, licensed by the state of Missouri and the National Association for the Education of the Young Child. Nearly 6,500 students are enrolled in transfer and career programs.

FOREST PARK

Forest Park is the district’s city campus, conveniently located by U.S. 40 (I-64) across from the world famous St. Louis Zoo, and is adjacent to several other major health, cultural and educational centers, such as the St. Louis Science Center. The campus is recognized for its career programs in allied health and hospitality studies/culinary arts. Forest Park has taken the lead in preparing students for careers in the high-tech field of advanced computer networking with its Cisco Systems Academy. In addition, career and transfer programs are offered in business, information systems, engineering, trade and technical, and the humanities and social sciences.
Drawing from its multi-cultural surroundings, Forest Park’s student body is the definitive diverse population, with students hailing from 70 countries and speaking 80 different languages. More than 7,000 students are enrolled in transfer and career programs. The campus attracts more than 100,000 visitors each year for theatrical performances, community meetings and other events.

MERAMEC
The Meramec campus, located on 78 park-like acres in Kirkwood, is known for its excellent general transfer program. The wide range of career program selections includes programs unique to the Meramec campus such as architectural technology, horticulture, occupational therapy assistant, and physical therapist. The campus also has the largest fine art program of any college or university in Missouri and is home to the Center for Visual Technology-Digital Media, the graphic computer facility that provides state-of-the-art instruction on the latest computer equipment and the most current operating systems and software available. Meramec has the largest enrollment of the three campuses, with more than 11,600 college-credit students.

JOSEPH P. COSAND
COMMUNITY COLLEGE CENTER/
DOWNTOWN EDUCATION CENTER
The Downtown Education Center, named for the founder and first president of SLCC, is the College’s focal point for business and industry training. As part of the College’s Center for Business, Industry & Labor, the Downtown Education Center is fully furnished to meet the training, conference and workshop needs of area businesses. It also serves as the administrative headquarters for the district.

SOUTH COUNTY EDUCATION AND UNIVERSITY CENTER
The South County Education and University Center (SCEUC), an off-campus extension of St. Louis Community College at Meramec, is located at the corner of Lemay Ferry and Meramec Bottom roads. The 59,000-square-foot complex opened in October 2003 and provides state-of-the-art computer labs and interactive classrooms in a nationally recognized facility. SCEUC also partners with the University of Missouri-St. Louis, Southeast Missouri State University and Harris-Stowe State University to offer on-site upper division classes.

WEST COUNTY EDUCATION CENTER
The West County Education Center (WCEC), another off-campus center of St. Louis Community College at Meramec, is located in the Ballwin/West County area. The Center is housed in the historic Barn at Lucerne building and enrolls more than 2,000 students each semester. The facility includes 16 classrooms and a registration/admissions office. Academic support services include advising, assessment testing and tutoring.

In 1998 the College purchased 66 acres in Wildwood for a new fourth campus. Ground was broken in October 2005 and construction is under way. When completed in August 2007, the new campus will replace the WCEC in serving one of the fastest-growing areas in the College’s service area. The campus will be constructed in three stages. The initial building, 73,000 square feet, will house high-tech classrooms and labs, offices, student services, lounges, a bookstore, multipurpose room, and rooms set up to send and receive instruction by interactive television. In an effort to reduce the building’s impact on the environment and community, the campus will incorporate design concepts that will qualify the facility for LEED (Leadership in Energy and Environmental Design) certification. LEED emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

WILLIAM J. HARRISON NORTHSIDE EDUCATION CENTER
In an effort to expand College services to the north St. Louis community, SLCC opened the William J. Harrison Northside Education Center in the Penrose Neighborhood of St. Louis. In 1994 the Center was dedicated to the memory of Harrison, an educator, historian and community and civil rights activist. The Center offers college-level classes available for credit through the Forest Park campus, as well as non-credit continuing education classes, employee development programs and contractual training.
2006-2007

General Information, Programs and Course Descriptions Catalog

St. Louis Community College

http://www.stlcc.edu

Florissant Valley campus
3400 Pershall Road
St. Louis, MO 63135-1408
(314) 513-4200
(314) 513-4552 (TDD)

Forest Park campus
5600 Oakland Avenue
St. Louis, MO 63110-1316
(314) 644-9100
(314) 644-9093 (TDD)

Meramec campus
11333 Big Bend Boulevard
St. Louis, MO 63122-5720
(314) 984-7500
(314) 984-7800 (TDD)

Joseph P. Cosand Community College Center
300 South Broadway
St. Louis, MO 63102-2800
(314) 539-5000
(314) 539-5399 (TDD) General
(314) 539-5397 (TDD) Human Resources

South County Education and University Center
4115 Meramec Bottom Road
St. Louis, MO 63129-2126
(314) 984-7200
(314) 984-7200 (TDD)

West County Education Center
The Barn at Lucerne
930 Kehrs Mill Road
Ballwin, MO 63011-2402
(314) 984-7400
(314) 984-7400 (TDD)

William J. Harrison Northside Education Center
4666 Natural Bridge Road
St. Louis, MO 63115-1923
(314) 951-9850
(314) 644-9093 (TDD)

This catalog is available in alternate forms. Contact a campus Access office for more information.

300130 Catalog 10/05
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NON-DISCRIMINATION STATEMENT
St. Louis Community College is committed to non-discrimination and equal opportunities in its admissions, educational programs, activities and employment regardless of race, color, creed, religion, sex, sexual orientation, national origin, ancestry, age, disability or status as a disabled veteran and shall take action necessary to ensure non-discrimination.

For information contact:
Judy Koenig
Supervisor
Downtown Education Center
CBIL
300 South Broadway
St. Louis, MO 63102-2800
314-539-5360
1-800-735-2966
(MO Relay TDD)

Ronald P. Nicoletti
Director
Human Resources
Cosand Center
300 South Broadway
St. Louis, MO 63102-2800
314-539-5220
314-539-5357 (TDD)

Laura Sterman
Dean
Enrollment Services
Florissant Valley
3400 Pershall Rd.
St. Louis, MO 63135-1408
314-513-4250
314-513-4552 (TDD)

Philishea Ingram
Manager
Student Life
Forest Park
5600 Oakland Ave.
St. Louis, MO 63110-1316
314-644-9136
314-644-9093 (TDD)

Daniel Herbst
Dean, Admissions, Registration
& Financial Aid
Meramec
11333 Big Bend Rd.
St. Louis, MO 63122-5720
314/984-7607
314/984-7744 (TDD)

ACCOMMODATIONS STATEMENT
St. Louis Community College makes every effort to accommodate individuals with disabilities. If you have accommodation needs, please contact the Access office at the campus where you are registering at least six weeks before the beginning of the class. Event accommodation requests should be made with the event coordinator at least two working days prior to the event.
Section 1

**GENERAL INFORMATION**
<table>
<thead>
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<th>College Calendar</th>
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<tr>
<td><strong>FALL SEMESTER 2006</strong></td>
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<tr>
<td>Service Days __________________ August 15-18</td>
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<tr>
<td>Saturday classes begin ___________ August 19</td>
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<td>Sunday classes begin _____________ August 20</td>
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<td>Classes begin ____________________ August 21</td>
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<td>Labor Day (no classes) ________ September 2-4</td>
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<td>Late start classes begin ________ September 11</td>
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<td>Midterm grades due ___________ October 16</td>
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<td>Service Day (Midterm break - no classes) ______ October 17</td>
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<td>Withdrawal deadline __________ November 10</td>
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<td>Thanksgiving (no classes) ________ November 23-26</td>
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<td>Last scheduled class __________ December 10</td>
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<td>Final exams ____________________ December 11-17</td>
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<tr>
<td>Grades due ____________________ December 18</td>
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<tr>
<td>Official degree conferral date __________ December 19</td>
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**SPRING SEMESTER 2007** |
| Service days ____________________ January 8-12 |
| Saturday classes begin ____________ January 13 |
| Sunday classes begin ______________ January 14 |
| Martin Luther King, Jr. Holiday (no classes) ________ January 15 |
| Classes begin ____________________ January 16 |
| Late-start classes begin ________ February 5 |
| Presidents’ Day Holiday (no classes) ___________ February 19 |
| Midterm _________________________ March 9 |
| Midterm grades due __________ March 12 |
| Spring Break (no classes) ________ March 12-18 |
| Spring Holiday ___________________ March 16 |
| No classes ____________________ April 7-8 |
| Withdrawal deadline __________ April 13 |
| Last scheduled class day __________ May 7 |
| Final exams ____________________ May 8-14 |
| Grades due ____________________ May 17 |
| Official degree conferral date __________ May 18 |

**SUMMER SEMESTER 2007** |
| Three-week and 11-week classes ________ May 15 |
| Memorial Day Holiday (no classes) ________ May 28 |
| Six-week and eight-week classes begin ___________ June 4 |
| Independence Day Holiday (no classes) ____________ July 4 |
| Last scheduled class day ___________ July 29 |
| Grades due ____________________ July 30 |
| Official degree conferral date __________ July 31 |

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<td>President _______________ 513-4208</td>
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FOREST PARK
Academic Support and Continuing Education Division 644-9283
Access Office, disAbility Support Services 644-9039
Access TDD 644-9033
Admissions/Registration 644-9127
Admissions TDD 644-9607
Advising Center 644-9261
Allied Health and Natural Sciences 644-9312
Assessment Center 644-9257
Athletics 644-9717
Bookstore 644-9150
Business, Math and Technology Division 644-9285
Cafeteria 644-9778
Campus Ministry 644-9718
Campus Police (voice and TDD) 644-9700
Career and Employment Services 644-9225
Career and Employment Services TDD 644-9977
Career Resource Center 644-9721
Career Resource Center TDD 644-9950
Cashier 644-9738
Children's Center 951-9440
Community Relations 644-9744
Continuing Education 644-9175
Counseling 644-9251/9252
Counseling TDD 644-9252
Dental Clinic 644-9331
Executive Dean 644-9282
Financial Aid 644-9117
Financial Aid TDD 644-9034
Humanities and Social Science Division 644-9390
Learning Achievement Center 644-9267
Library 644-9210
Library TDD 644-9969
Nursing Department 644-9313
President 644-9743
Student Life 644-9137
Student Services Division 644-9113
Switchboard 644-9100
Telescript 644-9636
Telecourses 644-9201
Transcripts 644-9670
Veterans’ Services 644-9226
Business Administration/Economics Dept. 984-7138
Business Services 984-7688
Cafeteria 984-7672
Campus Police 984-7667
Campus Police TDD 984-7667
Career and Employment Services 984-7611
Cashier 984-7736
Child Care Center 984-7886
Communications Dept. 984-7537
Community Relations and Alumni Association 984-7529
Continuing Education 984-7777
Counseling 984-7575
English Dept. 984-7543
Executive Dean 984-7679
Financial Aid 984-7650
Financial Aid TDD 984-7962
Health Services 984-7220
History/Government Dept. 984-7691
Humanities Dept. 984-7537
Information/Office Systems Dept. 984-7519
Instructional Administration Center 984-7389
Instructional Resources 984-7616
Mathematics Dept. 984-7769
Nursing Dept. 984-7759
Occupational Therapy Assistant 984-7364
Physical Education Dept. 984-7791
Physical and Engineering Sciences 984-7724
Physical Therapist Assistant 984-7366
President 984-7762
Services for Students with Disabilities 984-7673
Student Services 984-7681
Student Activities 984-7641
TDD (General) 984-7704
Teacher Education 984-7681
Theatre Box Office 984-7562
Transcripts 644-9670
Tutoring Services 984-7876
Tutoring Services TDD 984-7876
Veterans’ Services 984-7649
COSAND COMMUNITY COLLEGE CENTER
General Information 539-5000
TDD 539-5399
TDD Human Resources 539-5397
HARRISON NORTHSIDE EDUCATION CENTER
General Information 951-9850
TDD 644-9093
SOUTH COUNTY EDUCATION AND UNIVERSITY CENTER
General Information 984-7200
V/TDD 984-7200
WEST COUNTY EDUCATION CENTER
General Information 984-7400
V/TDD 984-7400
About the College

St. Louis Community College is a public coeducational college supported by local taxes, state funds and student fees. Created by area voters in 1962, the College offers freshman- and sophomore-level career and college transfer, developmental and continuing education programs at its three campuses, four education centers and at numerous other locations throughout St. Louis City and County. Nearly 130,000 students enroll each year in credit and non-credit courses. The College also serves the business community with programs offering counseling, consulting and training services. St. Louis Community College and its campuses are accredited by the Higher Learning Commission of North Central Association of Colleges and Secondary Schools. The College also is a member of the League for Innovation in the Community College.

MISSION FOREWORD

St. Louis Community College recognizes the dignity and worth of all human beings and believes that postsecondary education should be available to all who can benefit from it. The College further believes that education should be a rewarding experience offered in an environment that fosters the growth and well-being of all members of the community it serves.

The mission of the College is manifested through a variety of programs and services which include, but are not necessarily limited to:

- Lower division preparation for college/university transfer, up through the associate degree;
- Occupational entry preparation at both the vocational and paraprofessional/technical level, up through the associate degree;
- Occupational upgrading and retraining in credit and non-credit courses and certificate programs;
- Counseling and other student support services, particularly personal, academic and career advisement, as well as job placement;
- Limited programs for special student groups, such as disabled, limited English speaking, talented and gifted persons;
- Basic skill development and remediation for those who can be prepared for collegiate credit courses within a reasonable period of time;
- General education courses and course sequences as an integral part of all degree programs.

Mission Statement

St. Louis Community College expands minds and changes lives every day. We create accessible, dynamic learning environments focused on the needs of our diverse communities.

Admissions

OPEN ADMISSIONS POLICY

St. Louis Community College (SLCC) has an open admissions policy in keeping with its original purpose to provide quality, low-cost education to area residents. Although admission to the College is not based on minimum academic qualifications, certain programs have required standards for admission and retention.

The College reserves the right to guide enrollment on the basis of placement tests, pre-enrollment interviews, physical examinations (if required for a specific program), previous achievement and other criteria.

Some degree and certificate programs offered by the College require students to obtain clinical or other field experience as part of their course work. Students with criminal convictions or drug use may have difficulty progressing in these programs. Hospitals and facilities may mandate that a criminal background check and/or drug screening check (at the student’s expense) be conducted prior to placement in a clinical or field setting. Students not passing these checks may be prohibited from participating in the clinical or field experience thus rendering the student ineligible to satisfactorily meet the course/program requirements. Students should contact an academic advisor or the program coordinator for further details.

Standards of admission and retention have been established for certain programs and courses to make sure students have the necessary aptitude and background for success. Students applying for a program with selective admissions criteria may be required to take additional tests for admission purposes.
For programs requiring reading competency, English writing and/or mathematics courses, a battery of assessment tests is required for placement. Students not meeting standards for admission into a certain program may enroll in courses designed to help them qualify.

Before registering for courses, students must be admitted to the College. Students may apply for admission at any time during the year, although some programs begin only in the summer or fall semester. Applications and credentials may be submitted as early as one year in advance of the first semester of enrollment or as late as eight weeks prior to the beginning of a semester.

ADMISSION CATEGORIES

Students register as either a regular or general student. Regular students are full-time or part-time students who want to work toward an associate degree, certificate of proficiency or certificate of specialization, and who are eligible to enroll in from one to 18 credit hours per semester. Students applying for financial aid must have regular student status. General students may enroll in from one to 18 credit hours per semester with limited admissions credentials. A general student may apply for regular status at a later time. Credits earned as a general student may be applied toward a degree or a certificate if the courses taken are part of the program requirements. (See “Change of Status”.)

REGULAR STUDENTS

Regular students must complete the following steps:
1. Fill out an application for admission and send it to the campus Admissions/Registration office.
2. Request high school to mail to the Admissions/Registration office an official transcript showing grades, class rank and date of graduation. Students who have received a General Education Development (G.E.D.) certificate should submit scores from that examination. For courses taken at other colleges, an official transcript should be sent directly from that college to the SLCC Admissions/Registration office. Students with 15 or more semester hours of college credit need not send a high school transcript unless the Admissions/Registration office requests one.
3. Various assessment tests are required depending upon program. Students should check in advance with the campus Admissions/Registration office.

GENERAL STUDENTS

To enroll as general, students should complete the following steps:
1. Fill out an application for admission and send it to the Admissions/Registration office. Students may be asked to send additional information to the Admissions/Registration office. They also may be asked to take an assessment test, depending upon course enrollment.

NON-TRADITIONAL APPLICANTS

Applicants who have not completed a traditional high school program that is recognized by the College may apply for admission.

Non-High School Graduates:
- Must be at least 18 years of age and have not attended high school for at least 6 months
- Take the College’s assessment test or submit SAT or ACT scores for evaluation
- Submit high school transcript from last school attended

Admissions eligibility is determined by the Dean of Enrollment Services

Graduates of Home Schools, Non-Accredited High Schools and Non-Accredited Correspondence Schools:
- Must be at least 18 years of age
- Submit transcript verifying completion of academic program
- Submit required score levels from the ACT and/or SAT

Students who do not meet the required admission guidelines may apply as a non-high school graduate. See related section.

Dual Enrollment:
- High school juniors and seniors may attend classes through the Dual Enrollment program which provides students an opportunity to take courses not offered in their high school or to continue a course series beyond the level offered in high school. Eligible students may earn college credit hours before the time they would normally begin college. Students must fulfill the following requirements:
  1. Complete dual enrollment application
  2. Discuss definite course or interest with counselor/principal
  3. Obtain required signatures from parent/guardian and authorized school official
  4. Have achieved a cumulative high school G.P.A. of 2.0 or higher
  5. Submit copy of high school transcript

DUAL CREDIT

High School juniors and seniors may receive college credit for specified classes at high schools participating in the College’s dual credit program. Dual credit students must fulfill the following requirements:
- Complete the dual credit application
- Have a cumulative high school G.P.A. of 3.0 or higher
- Obtain written permission to enroll from a designated high school official and from a parent/guardian
- Meet the College’s requirements for entry into the course
- Pay a non-refundable fee for the course which is equal to the cost of the course if taken on campus
INTERNATIONAL APPLICANTS

International students must fulfill the following requirements for admission:

1. Complete the requirements for admission as a regular student.
2. Request the “International Student” packet from the Admissions/Registration office at the campus of choice and follow the procedures outlined.
3. Score 500 or above on the paper type TOEFL (Test of English as a Foreign Language) or 173 or above on the computerized TOEFL, or score 80 or above on the University of Michigan English Examination.

All admission requirements and all required documents for prospective students still residing outside of the United States must be on file 120 days prior to the start of classes.

Prospective students presently attending a college in the United States must submit all materials 30 days prior to the start of classes.

Prospective students already in the United States and attending English Language Centers or intensive English courses at another college must submit a grade of “B” (3.0) on all such course work. Students in regular academic programs at other accredited institutions in the United States must have earned a cumulative grade point average of “C” (2.0).

International students on F-1 Visas must comply with the following regulations:
1. Complete a minimum of 12 credit hours per semester.
2. Maintain a cumulative grade point average of 2.0 or above.
3. Complete a certification program in not more than four semesters or an associate degree program in not more than six semesters, excluding summer or interim sessions.
4. Provide the college with proof of health insurance.

If such a student completes fewer than 12 credit hours or earns a cumulative grade point average of less than 2.0, he or she will be placed on probation for the next semester of attendance. If the student completes fewer than 12 credit hours or earns a grade point average less than 2.0 while on probation, he or she will not be permitted to re-enroll.

Foreign-born students (both permanent residents and refugees) should have a command of written and spoken English in order to successfully complete college work.

RE-ADMISSION

Former students who have not attended SLCC for a semester or more may re-activate their files by updating their admission status with the Admissions/Registration office. Before changing status to regular student, transcripts of all college work not currently on file at SLCC must be sent to the Admissions/Registration office.

Files for students who have not attended within five years will be destroyed. Transcribed grades earned at St. Louis Community College are retained. Students may be required to resubmit high school records, transcripts from other colleges and universities, or other documents that may have been destroyed.

CHANGE OF STATUS

Students who wish to change from general, formerly unclassified, to regular status should complete the following steps:
1. Inform the Admissions/Registration office of intent to become a regular student.
2. Complete all admission requirements for regular student status.

Individuals who have not successfully completed entry-level college courses in college composition and mathematics are required to take assessment tests.
Fees and Refunds

Because much of the support for St. Louis Community College comes from state funds and local taxes, students who live within the service area of the College pay a small part of the cost of their education. The service area includes the City of St. Louis, St. Louis County and portions of Franklin and Jefferson Counties which are part of the Meramec Valley R-3 School District and the Rockwood R-6 School District. Students may be required to submit an affidavit showing residence. Students normally pay fees in full when registering. However, students registering early may be billed. Check with the Admissions/Registration office concerning fee payment. The College does not have an installment payment plan. However, MasterCard, VISA and Discover are accepted. The College reserves the right to charge a transaction fee if other special services are required and the College has a $20 bad check processing fee.

FEES
For a current schedule of maintenance fees contact a campus Admission/Registration office or the college web site. Residents of the College service area who are 60 years and older may enroll for half the usual fees. Persons 85 years and older who are Missouri residents may enroll on a not-for-credit, space available basis in any credit course for a $10 non-refundable registration fee.

Student fees are one of the three primary sources of funding for St. Louis Community College. State funds, appropriated by the Missouri legislature and approved by the governor contribute some 30 percent. Another 36 percent of total revenue comes from local property owners who pay taxes within the college’s taxing district. Student fees account for 30 percent of the money needed to maintain the college. (The other four percent comes from other various miscellaneous sources.)

OPTIONAL FEES
Course fees in courses that require special equipment, field trips, insurance, etc., will be charged additional fees. These are outlined in course information.

Late Registration Fee: A non-refundable late registration fee of $10 is charged for enrolling after classes begin.

Transcripts Fee: A $2 fee is charged for each transcript of grades requested to be sent to another institution.

MoPIRG Fee (Meramec only): Assessed fees include an optional non-refundable $7 payment to the Missouri Public Interest Research Group (MoPIRG).

Fees listed above may have changed since publication of this catalog. The latest information is available in the Admissions/Registration office.

REFUNDS
Students withdrawing from a course prior to or during the early part of the semester will be eligible for a refund of fees based on the following schedule:

Courses of a minimum of 15-weeks duration:
Before the end of the week prior to the beginning of classes: 100% refund
Before the end of the first week of classes: 80% refund
Before the end of the third week of classes: 50% refund
After the third week of classes: none

FEES WILL BE REFUNDED BASED ON THE FOLLOWING SCHEDULE:

<table>
<thead>
<tr>
<th>LENGTH OF COURSE</th>
<th>80% REFUND THROUGH THE END OF</th>
<th>50% REFUND THROUGH THE END OF</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 wk session</td>
<td>1st wk of session</td>
<td>3rd wk of session</td>
</tr>
<tr>
<td>14 wk session</td>
<td>1st wk of session</td>
<td>3rd wk of session</td>
</tr>
<tr>
<td>13 wk session</td>
<td>1st wk of session</td>
<td>3rd wk of session</td>
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<tr>
<td>12 wk session</td>
<td>1st wk of session</td>
<td>3rd wk of session</td>
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<tr>
<td>11 wk session</td>
<td>1st wk of session</td>
<td>2nd wk of session</td>
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<tr>
<td>10 wk session</td>
<td>1st wk of session</td>
<td>2nd wk of session</td>
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<tr>
<td>9 wk session</td>
<td>1st wk of session</td>
<td>2nd wk of session</td>
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<tr>
<td>8 wk session</td>
<td>4th day of session</td>
<td>2nd wk of session</td>
</tr>
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<td>2nd day of session</td>
</tr>
<tr>
<td>1 wk session</td>
<td>1st day of session</td>
<td>None</td>
</tr>
</tbody>
</table>

Refunds to all Title IV recipients who withdraw during an enrollment period for which they have been charged will be identified and processed to comply with federal regulations. Students who withdraw from all classes because of a serious illness (certified by a doctor) may receive a refund of fees prorated on the number of weeks remaining in the semester.

It is the responsibility of the student to complete withdrawal procedures.

RESIDENCY
A resident student is defined as follows:

a. An unemancipated minor student who has not attained the age of 21 and is under the care, custody or support of the individual or individuals having legal custody of the student and who live in the district.

b. An emancipated minor student who has not attained the age of 21 and who is not under the care, custody and support of an individual or individuals having legal custody, but lives in the district.

c. An adult student who has attained the age of 21 and who has established residence within the St. Louis Community College district.

d. A non-immigrant unemancipated minor alien student, holding a visa type B, F, H (except H-1B), J, M, O-2, P or Q and
who is a legal dependent of an individual(s) who holds permanent alien status or who holds a visa in a category other than those specified above and who lives within the district.

e. A non-immigrant alien holding a visa in a category other than those specified above will be assessed in-district fees if he/she has established residence within the district.

The burden of proof for establishing resident student status rests with the student.

Tuition for international students residing in the U.S.A. on non-immigrant visas will be assessed according to their visa category and their residency. Contact the Admissions/Registration office.

Financial Aid

SLCC provides a comprehensive financial aid program funded by federal, state and private agencies. Aid awards fall into four categories: grants, scholarships, loans and work. Although superior ability and talent are recognized through the College’s and other scholarship programs, most aid is awarded on the basis of financial need.

It is not within the scope of this catalog to explain all of the financial aid programs available. Each campus publishes a financial aid brochure that explains all of the programs and gives information on application.

Students are encouraged to apply for aid as early as possible (at least by April 1 for the fall semester) because some funds may be depleted. Students should use aid programs as a supplement to personal or family funds rather than as the only way of paying for college.

Students who wish to know more about their financial aid eligibility should contact the Financial Aid Office. In general, students must demonstrate need through an approved federal need analysis system.

Students receiving certain types of financial aid are required to submit official high school transcripts, placement test scores and official college transcripts. They are also required to declare a program of study and enroll in courses appropriate to that program. Students are given a maximum amount of time within which to complete programs, based on enrollment status, and a maximum number of applicable credit hours transcripted. Students must pass at least two-thirds of all credit courses attempted.

Students are expected to maintain satisfactory grades to remain eligible for aid. A 2.0 cumulative grade point average is required. See “Satisfactory Academic Progress”. Grades of F, W, I, PR and U are not acceptable toward meeting these requirements.

At the end of each session, progress is assessed. Students who do not meet the requirements will be placed on financial warning the next session of enrollment. During the financial warning session, financial aid eligibility may be continued. Failure to meet the criteria during the financial warning semester will result in suspension and termination from Title IV aid. Students who fail, withdraw or receive an Incomplete for all classes in which they enroll will not be eligible for financial aid the next semester of enrollment.

Students may appeal termination of financial aid by writing a letter of appeal to the campus manager of financial aid. Students must document any extenuating circumstances that prevented them from maintaining the required standards.

VETERANS’ AND OTHER AID

Detailed information about services for veterans is available from the campus Veteran Services office.

Some students also may be eligible for financial aid from agencies such as Department of Mental Health, Department of Vocational Rehabilitation and Rehabilitation Services for the Blind. Students must make their own arrangements for such aid.

Students should become familiar with the policies and information in this section.

Academic Policies

CREDIT/COURSE LOAD

The unit of credit is the semester hour. Normally, one credit may be earned in a lecture course which meets for one hour each week during a semester. In a laboratory course, one credit usually is granted for two to three hours in a lab each week during the semester.

Course load is the total number of hours spent in class each week during a semester. Students enrolled in at least 12 hours a re classified as full-time and normally carry a course load of 12 to 18 hours. Students intending to register for more than 18 credits must obtain approval from the campus Counseling office.

DEGREES AND CERTIFICATES OFFERED

The College offers four associate degrees, the certificate of proficiency and the certificate of specialization. Most of the College's degrees and certificates are designed to be taken on a full- or part-time basis. Degrees can be completed in two years of full-time attendance. Certificates usually can be completed in one or two semesters. However, since most students attend classes part-time, degrees and certificates can take longer to complete. (See “Degree and Certificate Time Limits.”)

The certificate of general education is designed for students who complete the 42-credit hour General Education program.

The associate in arts degree is designed for students who plan to transfer to another college and work toward a bachelor's degree. The associate in fine arts degree is offered jointly with the University of Missouri-St. Louis and is designed for students who plan to transfer to UM-St. Louis and earn a bachelor of fine arts degree. The associate in applied science degree helps students develop practical and theoretical skills that prepare them for entry-level jobs. The associate in science degree is designed to transfer to a particular institution in a specialized area. The certificate of proficiency is for persons whose intended job does not require an associate degree. It is also for persons who wish additional information/skills in a particular subject area. The certificate of specialization is for persons who desire information/skills in a specific area usually related to a current job.
REQUIREMENTS FOR GRADUATION
Requirements for an associate degree are as follows:

1. Satisfactory completion of one of the programs listed in this catalog.

2. Completion of a minimum of 64 credit hours. Fifteen of the last 25 hours of credit applicable to the associate degree must be completed at St. Louis Community College.
   a. A maximum of four credit hours from courses numbered below 100 may apply as unspecified electives toward the associate degree. Credit hours below 100 may not be applied as electives defined by discipline, such as “science-mathematics elective” or “humanities-communications elective.”
   b. A maximum of nine credit hours in special problems courses may apply as unspecified electives toward the associate degree. Special Problems courses may not be applied as electives defined by disciplines such as “science-mathematics elective” or “humanities-communications elective.”

3. A cumulative grade point average of 2.0 (C) or higher. Credits from previously-attended colleges are not computed in the average.

4. Completion of a minimum of two credit hours of physical education, at least one in an activity course. A few specialized PE courses will not fulfill this requirement; see an academic advisor for detailed information. Appropriate accommodations will be made for students with disabilities.

5. MISSOURI REQUIREMENT: The course requirements in federal and state constitutions and American history and institutions must be met by the satisfactory completion of one of the following courses: HST:100 American Civilization; HST:101 American History I; HST:102 American History II; HST:103 American History I (Honors); HST:104 American History II (Honors); HST:105 The United States in the Twentieth Century; HST:107 History of Black America; HST:137 African-American History I; HST:138 African-American History II; PSC:101 Introduction to American Politics; PSC:103 State and Urban Politics; PSC:106 Blacks and the American Political Process; PSC:205 Constitutional Issues.

   Students who have taken HST:101, HST:102, HST:103, or HST:104, cannot receive credit toward graduation for HST:100. Students taking HST:100 cannot receive credit toward graduation for HST:101, HST:102, HST:103 or HST:104.

6. To obtain a certificate of proficiency or a certificate of specialization, students must earn a cumulative grade point average of 2.0 (C) or higher.

7. College policy requires students who apply for a degree to participate in an appropriate outcomes assessment prior to degree being awarded.

8. Two-thirds of all credit hours required for certificates must be completed at St. Louis Community College.

SECOND ASSOCIATE DEGREE
Persons who wish to receive a second associate degree must earn 15 additional credit hours and complete all academic requirements for the additional program.

APPLICATION FOR GRADUATION
Students preparing to graduate with a degree or certificate must file a graduation application with the Admissions/Registration office not later than the end of the sixth week of the fall or spring semester or the third week of the summer session.

DEGREE AND CERTIFICATE TIME LIMITS
Students are expected to complete degree and certificate requirements within six years of the date the program of study was declared.

Students failing to meet the original time limit must meet the degree and certificate requirements of any catalog in effect within six years of the semester and year of application for graduation.

Former SLCC students returning to the College may not continue the original program of study if the program was deactivated prior to their re-entry.

HONORS
Transcripts and diplomas of graduates who have earned cumulative grade point averages of 3.5 or higher will be designated With Academic Honors.

Transcripts and diplomas of graduates who have earned cumulative grade point averages of 4.0 will be designated With Highest Academic Honors.

Full-time students who are enrolled in at least 12 credit hours and who earn current grade point averages of 3.5 or higher will be designated Dean’s List for that semester.

Part-time students will be designated Dean’s List at the accumulation of each increment of 12 credit hours with a grade point average of 3.5 or higher.

HONORS PROGRAM
Admission to the College Honors program is based on any of the following criteria: a 3.5 or better G.P.A. in either high school or college based on a 4.0 scale, a score of 1100 or better on the Scholastic Achievement Test (SAT) or a score of 25 or better on the American College Testing Program Assessment (ACT).

Both transfer and career programs offer a variety of ways to earn honors credit, including honors courses and projects and honors contracts within regular courses. Students who earn 15 hours of honors credit will receive the designation of “Honors Program Scholar” on their diplomas and transcripts.

For more information contact the campus Honors coordinator.

ASSESSMENT
Assessment involves collecting and interpreting data about student learning as well as the College environment, and using that data to improve student learning and institutional effectiveness. Students are often asked to participate in assessment to provide information they may use in making decisions about their education or careers. Such assessments are “formative”—intended only to provide helpful information—and have nothing...
to do with students’ grades or other “summative” evaluations. Faculty, staff and administrators regularly assess performance of classes, courses, or departments to insure that their desired outcomes are being achieved. Ultimately, assessment is the means by which St. Louis Community College can guarantee that it is fulfilling its mission: advancing student learning.

Assessment at St. Louis Community College occurs at a number of different points and for a number of different reasons:

**ENTRY ASSESSMENT**

Upon entrance to the College, students may be required to take entry assessment tests, commonly known as placement tests. These tests are designed to measure academic strengths and weaknesses. Tests in reading, English writing, and mathematics are used to assess basic skill levels of students.

As a student-centered institution, St. Louis Community College wants to help assure that students succeed. Therefore, it has created a reading pre requisite for most 100-level courses. For students who do not meet the requirement upon admission, the College provides courses in reading to prepare them for college-level courses: RDG:030, Introduction to College Reading, and ENG:070, Academic English for Non-native Speakers III. Students may be exempted from these courses if present a composite ACT score of at least 21, or an SAT verbal score of at least 500, or an Accuplacer Reading score of 77. Students may have met this prerequisite with college-level course work from a US-accredited institution; they should contact an advisor or counselor. This applies also to students with dual credit courses taken in high school.

This prerequisite applies to all students new to St. Louis Community College beginning Fall semester, 2005. The College may require additional testing in special cases, as with students enrolling in the English as a Second Language program. The College may also waive testing when students provide documentation of having acquired adequate credentials.

St. Louis Community College recognizes the importance of basic skills and suggests that students complete all developmental courses before registering for courses numbered 100 and above. Contact an advisor or counselor.

**OUTCOMES ASSESSMENT**

Students are frequently asked to participate in the following outcomes assessment process:

**Exit Assessment**

Students completing their associate degrees are required to participate in an exit assessment, currently a nationally-normed standardized test. Such assessments are used to gauge students’ levels of competence in general education. In addition, special assessments may be required depending upon students’ chosen academic or career areas.

**Classroom Assessment**

Classroom assessment techniques, or CATs, are ungraded tasks commonly employed by instructors to monitor student learning. The primary purpose of such classroom assessment is to get students’ views on how to better help them learn.

**Course Assessment**

In course assessment, academic departments cooperate to decide which courses to assess and which assessment measures to use. The goal is to gather information which will allow departments to make college-wide changes in courses to increase student learning. These ongoing assessments are necessary to sustain the credibility and transferability of courses and the programs which require them.

**Program Assessment**

The College offers a number of programs, both academic and career, which are assessed to insure that they are meeting the standards set both by professionals in the field and various accrediting agencies. Doing so assures students that they are participating in programs whose standards are recognized and accepted by other programs and institutions.

**Institutional Assessment**

The college assesses its various services and operations on an annual basis. College and student support services are assessed to determine how well they are accomplishing their institutional mission. Various external agencies expect colleges to assess and improve student learning and institutional effectiveness. These agencies include regional accrediting bodies like the Higher Learning Commission, professional accrediting bodies for career programs like nursing, as well as government agencies.

**ATTENDANCE AND WITHDRAWAL**

Students are expected to attend classes. Excessive absences, as determined by the instructor, may result in a failing grade. Attendance requirements should be outlined during the first class meeting.

Students deciding to withdraw from a class are encouraged to talk to the instructor first. To formally withdraw, students should report to the campus Counseling Center office for official authorization and then submit official forms to the Admissions/Registration office. To receive a grade of W for the course, the withdrawal process must be completed prior to the end of the College’s twelfth week of classes. Late-start and short-term courses have different withdrawal deadlines. Contact the Admissions/Registration office for appropriate dates.

At the end of the second week of classes (first week for summer and interim sessions), students who have registered and paid for a class but are reported by the instructor as never attended will be withdrawn. Classes less than a full semester in length may have different administrative withdrawal dates. The class will be shown on the transcript with a grade of W, and students are not eligible for a refund of fees. After this period the instructor cannot withdraw students from class. It is always the student’s responsibility to initiate a withdrawal.

**CLASS PREPARATION**

On average at least two hours of outside study and preparation are needed for each hour of regular classroom work. Students enrolled for 15 credit hours, therefore, should budget a minimum of 30 clock hours per week for study outside class and laboratory meetings.
FINAL EXAMINATIONS
A final examination or other culminating experience usually is required for completion of a course and for a passing grade. Absences from the final examination and the privilege of a make-up examination must be approved by the instructor.

GRADING SYSTEM AND GRADE POINT AVERAGE
The following grading symbols and points are used:

<table>
<thead>
<tr>
<th>GRADE SYMBOLS</th>
<th>GRADE POINTS</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
<td>superior</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>above average</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>average</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>passing, below average*</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>failure</td>
</tr>
</tbody>
</table>

* The grade of D may be considered unsatisfactory for progress in some programs.

Only grades earned at St. Louis Community College are included in the calculation of grade point averages for degrees and certificates.

THE FOLLOWING SYMBOLS ALSO MAY APPEAR ON STUDENTS’ TRANSCRIPTS:
R—Credit—This signifies that credit has been earned by examination.
T—Audit—This is an enrollment status that signifies no intent to earn credit. It carries no implication concerning class attendance or skill accomplishment. The same fees and requirements as regular class members are expected. Students may change from audit to credit status or credit to audit status only during the period in which the 50 percent refund policy is in effect.
**S—Satisfactory—A symbol indicating the award of credit. The earned credit(s) count toward graduation, but are not used in grade point average calculations.
**U—Unsatisfactory—A symbol indicating the award of no credit and no grade points.
I—Incomplete—This normally indicates students have completed a major portion of the work in a class and, for reasons approved by the instructor, are prevented from completing the amount of course work required during the regular college term. Students must complete the course work in the time frame established by the instructor, up to one calendar year, in order for the “I” to be changed to a letter grade. Student and instructor must enter into a written agreement describing the work to be completed, the grading criteria, and the time frame for completion. Upon satisfactory completion of all work by the student, the instructor will initiate an appropriate grade change. After one year, if all requirements are not met, the “I” will change to a permanent grade of “F” on the student’s academic record. With the consent of the instructor, the one-year limit may be extended by the instructor, the department chair, or dean. The written agreement must be given to the department chair, who, if an instructor leaves the employ of St. Louis Community College, will assure evaluation of any work that might be completed.
PR—Progress Re-enroll—Students who make progress in a course, but do not complete the predetermined minimum amount of course work may, at the discretion of the instructor, be given a PR. This symbol represents no credits earned and carries no grade point value. Students are permitted to take the course again, but must pay tuition a second time.
W—Withdrawal—A transcript notation that reflects withdrawal.
NG—No Grade—This is a temporary indication that the instructor has not assigned a grade.
** Grades of S or U can be awarded only in courses approved for this purpose under guidelines developed by the College.

GRADE REPORTS
The campus Admissions/Registration office maintains records of academic performance for all currently enrolled students. Grades indicating performance following mid-semester may be obtained directly through the instructor in accordance with the regulations contained in the Family Rights and Privacy Act of 1974. These grades are an assessment of academic progress, but are not recorded as part of the permanent record. No mid-semester grades are reported for the interim and summer sessions.
Final grades become part of students' permanent records.

REPEATING COURSES
When students repeat a course the latest grade earned will be used in calculating grade point average. However, all enrollments and grades earned will appear on the transcript. Students must have authorization from a counselor or advisor before a third enrollment in the same course.
Some transfer schools will re-calculate grade point averages for admissions purposes and include all grades earned.

CHANGE OF PROGRAM
Students can change programs by filing a form available from the Admissions/Registration office.

Recalculation of Grade Point Average—In some cases, the student may request academic records be re-evaluated to establish a new cumulative grade point average. Any grades below a D for courses taken at the College will not be included in the new cumulative grade point average. Other courses will be accepted if they fulfill degree requirements in the new program. Coursework removed from GPA calculations cannot be used to meet degree requirements. All courses will remain on the transcript.

PROLONGED ABSENCE FROM COLLEGE
Following an absence from the College of 10 consecutive calendar years, former SLCC students may apply for a one-time re-calculation of grade point average with academic forgiveness. Students must apply during their first semester of re-enrollment after the ten year absence. All coursework below "C" will be removed from the GPA calculation. Course work removed from GPA calculation cannot be used to meet degree requirements. All courses will remain on the transcript.
SATISFACTORY ACADEMIC PROGRESS
All students are expected to make satisfactory academic progress.
1. Good Standing—Cumulative 2.0 GPA after completing at least six credit hours.
2. Academic Probation—Less than a cumulative 2.0 GPA after completing at least six credit hours.
3. Academic Probation/Restricted Probation/ Suspension— Students on academic probation will not be allowed to self-advising. Once placed on probation, a student must achieve a cumulative GPA of 2.0 in the next academic term in which he or she is enrolled, or be placed on restricted probation. Students on restricted probation must sign a contract with the counseling department stipulating conditions for remaining enrolled at the College. Students on restricted probation have two terms in which to raise their GPA to 2.0. Those that fail to do so will be suspended from the college for one academic year.

CREDIT BY EXAMINATION OR EXPERIENCE
Students may be eligible for credit for academic knowledge gained outside the classroom. To earn credit through examination, students must currently be enrolled at St. Louis Community College. The amount of credit earned through examination is limited only by College policy that 15 of the final 25 semester hours toward the associate degree must be earned at St. Louis Community College. However, students transferring to another institution should be aware that some schools may have different standards for awarding credit based on examination. Students should talk to an advisor about the transfer of this credit.

Various procedures and programs for credit are available through the campus instructional departments. They include:

- **Advanced Placement Program (AP)**
  Students who have successfully completed college-level courses while still in high school may be eligible for college credit or advanced standing if they make satisfactory scores on the Advanced Placement Examination. This test is sponsored by the College Entrance Examination Board and is administered by participating high schools. Test scores should be sent to the Admissions/Registration office at the campus. Credit or advanced standing may be considered, if the instruction area approves, for scores of three or higher.

- **College Level Examination Program (CLEP)**
  The College Level Examination Program evaluates knowledge gained through reading, job experience, non-college training programs, etc. The program is sponsored by the College Entrance Examination Board. Students may earn credit for general or subject examinations. Students should check with the instruction divisions and campus Counseling office before taking the examination to determine requirements for credit. Test scores should be sent to the Admissions/Registration office.

- **Departmental Examination**
  Several instructional departments offer examinations for students who have acquired knowledge in a particular subject area. Students may petition to receive credit in a course by taking a departmental examination. The dean can refuse permission for students considered insufficiently prepared. An examination fee is charged. Tutoring is not provided, nor is passing the examination guaranteed. If credit is earned, it is recorded on the transcript as “credit by examination.” Students applying to transfer should be aware that some colleges and universities do not accept such credit.

- **Work or Military Experience Evaluation**
  Students who have earned credit from a non-accredited institution for work experience may be granted college credit on the basis of a written or oral examination and/or certified verification of experience. Experience gained in the armed services, service schools and other sources may be considered for credit. The appropriate instruction division will determine requirements for credit.

TRANSFER CREDIT
To be eligible for acceptance of previously-earned credit, students must be currently enrolled at St. Louis Community College with a declared program of study.

Students should have official transcripts mailed to the College and request an evaluation of previously-earned credits at the campus Admissions/Registration office.

Transcripts from other post-secondary institutions will be evaluated. Credits in which passing grades have to be earned will be accepted and counted in transfer as they fulfill St. Louis Community College’s program and degree requirements. Transfer credits will be evaluated for degree and pre-requisite requirements in the same manner as credits earned at St. Louis Community College.

A transfer student may invoke the College’s transfer appeals process to challenge institutional decisions on the acceptance of credit(s) from regionally accredited Missouri public colleges and universities or those that have been advanced to candidacy status by the North Central Association.

Accepted transfer credits will be included in the cumulative hours credit at St. Louis Community College. Grades earned at other institutions are not recorded and are not made part of the cumulative grade point average at St. Louis Community College.

TRANSFER TO ANOTHER SCHOOL
Admission regulations for transfer students vary among receiving colleges and universities. Therefore, students should consult an academic advisor or counselor early regarding transferability of credit earned at St. Louis Community College. Although the acceptance of credit is at the discretion of the transfer school, St. Louis Community College does have articulation agreements that can
facilitate transfer. Generally, college transfer program courses will satisfy various department, elective and degree requirements at receiving schools. Career program courses may not transfer because these programs are designed for employment preparation rather than transfer.

Students completing St. Louis Community College’s Missouri General Education requirements will receive certification on their transcripts. This certification satisfies all general education requirements of Missouri public colleges and universities except the University of Missouri, Columbia.

The following Missouri colleges are signatories of the General Education agreement:
- Northwestern Missouri State University
- Central Missouri State University
- Culver-Stockton College
- Southeast Missouri State University
- Missouri State University
- Lincoln University
- Truman State University
- Missouri Southern State University
- Missouri Western State University
- University of Missouri - Kansas City
- University of Missouri - Rolla
- University of Missouri - St. Louis
- Harris-Record State University
- Ozarks Technical Community College
- Crowder College
- St. Charles Community College
- East Central College
- Jefferson College
- State Fair Community College
- St. Louis Community College
- Metropolitan Community College
- Three Rivers Community College
- Mineral Area College
- Moberly Area Community College
- North Central Missouri College

CONFIDENTIALITY OF STUDENT RECORDS
The College complies with the Family Educational Rights and Privacy Act (FERPA) which afford you certain rights with respect to your education records. They are:
1. The right to inspect and review your education records within 45 days of the day you request access. This is a list of official records and their locations: Advisement (Advising); Counseling (Counseling); Disciplinary (Student Services); Enrollment Records (Admissions/Registration); Financial Aid (Financial Aid); Placement (Career and Employment Services); Medical (Health Services); Security (College Police); Photo Identification Card (Student Activities).
2. The right to request the amendment of your education records that you believe are inaccurate or misleading. You may fill out a request to challenge the record on a form available in the Admissions/Registration office. If the College decides not to amend the record you may appeal the decision to the Student Appellate Hearing Committee.
3. The right to consent to disclosures of personally identifiable information contained in your education record, except to the extent that FERPA authorizes disclosure without consent.
4. The right to request that directory information not be released without prior consent. Requests to withhold release should be received by the Admissions/Registration office on the first day of each term during which the student wished the withholding to be effective. Directory information may be released without the student’s consent and includes the following: name, class level, full or part-time enrollment, division, program of study, dates of enrollment, degrees received, height and weight for members of athletic teams, awards received and honors.
5. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4605.

Student Services

A+ SCHOOLS PROGRAM
Under grants made available through the Missouri A+ School Program, qualified graduates of participating high schools are eligible for scholarship grants to the community college. Students must fulfill A+ Program requirements at the high school before applying for grants. Students should contact high school counselors for eligibility requirements.

ACADEMIC ADVISING
Academic advisors are available to assist students by providing information about college policies and procedures, programs of study, and course requirements. For students planning to transfer, an advisor can help clarify transfer requirements and suggest appropriate coursework; however, the responsibility for course selection and meeting degree and transfer requirements rests with each student.

ACCESS OFFICE, DISABILITY SUPPORT SERVICES
The Access office offers support services to students who have documented disabilities of a permanent or temporary nature. The staff is available to provide the following services: individual counseling and advising; coordination of needed accommodations such as interpreters, notetakers and readers; and serving as liaison with faculty and staff and professional agencies in the community.

To qualify for services, students must identify themselves to the Access office and provide written documentation of their disabilities from qualified professionals or agencies. This should be done at least six weeks prior to the beginning of each semester so that accommodations can be in place when classes begin. After accommodations are assigned by the Access office, students will pick up the notices listing approved accommodations
and give the notices to their instructors. It is the student’s responsibility to discuss his/her special needs with each instructor. The goal of the program is to minimize physical and attitudinal barriers by providing supplemental services to students and faculty.

Another aim is to help students achieve individual autonomy. For more information, contact the Access office on each campus.

ALUMNI SERVICES
Each campus has an alumni association open to all graduates and former students. Alumni association members are eligible for a wide variety of benefits and services including participation in selected field trip and travel programs; recreational facilities use; library privileges; career planning, general counseling, testing and job placement services; access to continuing education information; alumni publications; and admission to social, cultural and athletic events. In addition, special interest alumni groups are encouraged to organize and develop programs and activities. Alumni fees are assessed by the campus. Contact the Alumni Association office for information.

ATHLETICS
Men’s and women’s teams and individual athletes from Forest Park, Florissant Valley and Meramec have won numerous regional and national honors. Among the varsity sports offered by the College are baseball, basketball, soccer, softball, track and field, volleyball and wrestling. Students not involved in organized sports can take advantage of the campuses’ recreational facilities.

The College is a member of the National Junior College Athletic Association, the Missouri Community College Conference, and the Midwest Community College Athletic Conference.

CAREER AND EMPLOYMENT SERVICES
Each campus provides placement services to assist students and alumni with finding full-time, part-time or temporary employment. An online database of employers and job listings is used to provide information about employment opportunities as well as internship and cooperative education programs. Professionals are available to help with producing resumes, improving interviewing skills and developing job search strategies.

Information about hundreds of careers is available at each campus. Decision making, life and career planning and job search strategies are stressed as a part of career development.

CHILD CARE
All campuses offer child care services for children of students when classes are in session. Florissant Valley, Meramec and Forest Park have centers associated with the Early Care and Education program.

CONCEALED FIREARMS
Concealed firearms are prohibited on college property, and classes and events on and off campus.

CONSUMER INFORMATION
St. Louis Community College is required by the Higher Education Amendments of 1998, Public Law 105-244, to provide information regarding several consumer-education related topics. Those topics include: General information about St. Louis Community College, Financial Aid information for St. Louis Community College, St. Louis Community College’s Completion/Graduation/Transfer Rates Report, Campus Crime Statistics (Clery Act Report), Drug and Alcohol Abuse Program Report, Equity in Athletics (Title IX) Report and Intercollegiate Athletics Annual Revenue/Expenditures (Title IX) Report.

This information may be accessed by visiting the College’s web site at www.stlcc.edu/services/consumer or by visiting St. Louis Community College’s home page, clicking on “Student Resources” and finding “Consumer Information” under “Other Student Resources”.

 COPYRIGHT/COMPUTER USE POLICY
Students should be aware that the unauthorized sharing of peer-to-peer file copyrighted works, including music, pictures, and movies, is a violation of St. Louis Community College’s computer use policy. It is also illegal and may carry significant money and/or criminal sanctions. It is the responsibility of students who are downloading or uploading documents to make certain that they are not copyrighted works, or that the student has the permission of the copyright holder.

COUNSELING SERVICES
Professional counselors are available to assist students with educational, career, and personal concerns. They help students gain a clear understanding of their strengths, identifying options and making choices. A variety of interest and personality tests is available to students using counseling services.

HEALTH SERVICES
A registered nurse is available on campus for urgent care, first aid and treatment for minor injury and illness, referral, preventive screening and education. Some immunizations are available.

At Forest Park’s Dental Clinic, dental hygiene students perform preventative services which include cleanings and x-rays for a nominal fee.

For more information about hours, services, student insurance, special parking permits or extensive absence due to illness, please call the Health Service office located on your campus.

INTERNATIONAL EDUCATION
In recognition of the importance of the United States’ position within the international community, St. Louis Community College offers transcultural and international study. This includes semesters abroad, study-tours and promoting an international aspect to programs and classes. The International Education office, at 314-539-5363, has additional information.

LEARNING LABS
Each campus has mathematics, reading, English and other specialized laboratories that offer personal assistance to students to supplement classroom instruction.

These labs provide individual tutorial and remedial help for students enrolled at the College. Students may use the labs on both an informal, walk-in and an appointment basis. The labs are designed primarily to help students who are enrolled in specific courses. However, the labs are open to any student on campus who would like some help with learning skills.
LIBRARIES
Instructional Resources is a service division on each of the campuses of the College dedicated to the support of instruction, facilitation of learning and enhancement of the cultural environment. IR buildings are centrally located on each campus and house the principal activities of the two departments of Instructional Resources: Library Services and Media Services. A book collection of more than 250,000 volumes, 700 newspapers and periodicals, computer software and numerous other instructional materials are maintained.

Registered students of the College may use and check out materials from any campus library. Hours of operation are the same as the campus hours, with weekend hours, holiday and summer sessions hours varying by location as posted. Campus ID cards serve as library cards and are valid at all three libraries. Students are encouraged to check with the Reference and Circulation departments for brochures that describe services available and library procedures.

PARKING ON CAMPUS
Students who park on campus facilities must display a parking permit on their vehicle. Student IDs and parking permits are available in student life/campus offices.

SEXUAL HARASSMENT
St. Louis Community College is committed to providing an academic and work environment that is free from sexual harassment. In keeping with this commitment, the college prohibits sexual harassment of any member of the college community. Sexual harassment in any form, including verbal, written, physical or visual harassment will not be tolerated. Information about the policy and a list of sexual harassment advisors is available on the college web page.

STUDENT ACTIVITIES
Student activities can help students develop and expand interests and find ways to contribute talents and skills to the College. Opportunities for leadership development are available through student government, clubs and organizations, honorary societies, student publications, and special interest groups. In addition, the campuses sponsor film series, concerts, plays, discussion groups, lectures, exhibits, performances, social functions and special presentations.

For informal gatherings, the campuses provide facilities such as game rooms, meeting rooms, music and television lounges, study areas, and cafeterias.

STUDENT RIGHTS AND RESPONSIBILITIES
Students retain those rights common to all citizens of Missouri and the United States, including the right to privacy; equal opportunity; nondiscrimination; and freedom of speech, assembly and association. Likewise, students have due process and equal protection rights.

As with all citizens, students are expected to assume responsibility for their actions; to know and obey federal, state and local laws; and to know and obey the rules and regulations of the College. Rules and regulations may be found in the Student Rights and Responsibilities booklet and the Fact Finder available through Student Development and Student Activities offices.

Academic Appeals—The academic appeal procedure is printed in Rights and Responsibilities and on the college web site.

Grievance/Disciplinary Appeals—Procedures are printed in Rights and Responsibilities and on the college web site.

Suspension Appeals—Procedures are on the web site.

STUDY HELP
The College is committed to helping students succeed. Students who are encountering difficulties with academic work should consult their instructor or a counselor. A tutorial program offered through Counseling is available for some courses.

If a problem should arise which can be traced to ineffective study habits the student should contact the Study Skills Center which exists to provide helpful solutions to study problems. The College also offers students an opportunity to bolster their grasp of fundamental skills, such as reading and math, through learning labs.

SUBSTANCE ABUSE POLICY
St. Louis Community College is committed to providing a positive and healthy environment for students and employees. Students assume the obligation to conduct themselves in a manner compatible with the College’s function as an educational institution. Therefore, the use of, being under the influence of, possession of, or distribution of beverage alcohol or illegal drugs on campus or at any College-sponsored function will result in disciplinary action. In addition, students are subject to the rules of accountability imposed by federal, state and local laws. Detailed information about the College’s policy and resources concerning substance abuse can be found in the “Substance Abuse Facts and Resources” pamphlet available in the Student Activities office.

TECH PREP
St. Louis Community College is a member of the St. Louis Area Tech Prep Consortium. Tech Prep programs allow high school students in approved vocational courses to earn college credits for their work after they transfer to the community college. Currently 46 St. Louis City and County high schools are participating in more than 200 Tech Prep agreements. For additional information contact the St. Louis Community College Tech Prep coordinator at 314-644-9942 or check www.slcc.mo.us/techprep.

UNATTENDED CHILDREN
Students are not permitted to bring children to class, nor should children be left unattended in the halls, offices, library, student center or outside on campus property. The College reserves the right to protect the safety and welfare of unattended children. If students leave children unattended, the College will institute appropriate disciplinary action.

Community Programs
EMERSON CENTER
The Emerson Center for Engineering and Manufacturing, located on the Florissant Valley campus, acts as an agent of change for the regional manufacturing community. It offers programs that educate and train the region’s manufacturing workforce, and assists in adopting new business techniques and technologies, as well as demonstrating the possibilities of a thriving manufacturing sector in the future.
COLLEGE CREDIT TELECOURSES AND WEB COURSES
Telecourses combine televised lessons, related readings and assignments, discussions and examinations. They are offered in a variety of subjects and carry the same credit as similar courses on the campuses. Telecourses can be viewed on KETC-Channel 9 and on the Higher Education Channel through local cable television stations. For more information call 314-644-9798. Classes also are offered over the Internet.

NON-CREDIT CLASSES
Hundreds of non-credit courses ranging from allied health, family education and microcomputer applications to small business planning and operations, photography recreation and travel options are offered through the College’s three campuses, education centers and at numerous school and community locations. A schedule of non-credit classes is published three times a year. For more information contact the campus Continuing Education office.

COMMUNITY SERVICES PROGRAMS
Allied Health Continuing Education
Emergency medical technician and paramedic training, plus other training in the health care field.
New Perspectives
Career counseling for displaced homemakers and single parents.
Small Business Training Center
Courses and services for small businesses in cooperation with the St. Louis Small Business Development Center and the U.S. Small Business Administration.
Women Entrepreneur Training Program
Courses, workshops and mentoring for women who want to start or expand a small business.

WORKFORCE AND COMMUNITY DEVELOPMENT
Workforce and Community Development is a comprehensive service of St. Louis Community College to respond to the needs of St. Louis’ business, civic, and community-based organization. The department's divisions serve the community beyond the traditional college setting. Each division maintains professionals and resources designed to improve the quality of the area’s workforce and provide increased opportunities for the area’s residents. For additional information, call (314) 539-5301.

Center for Business, Industry & Labor (CBIL)—Providing consulting, training, and operational support services to maximize performance and sustain excellence in businesses.
Employment & Training Center (ETC)—Supporting the area’s workforce through retraining and outplacement efforts. The centers provide career counseling, job referrals, workshops and referrals to classroom training.
Workforce Development Programs (WDP)—Providing services to assist workers enter and remain competitive in the marketplace. Initiatives that expand the scope of services to businesses, acknowledging and addressing the shifts in marketplace requirements.
Community Service—Creating revitalization tools and opportunities for life-long learning for area residents through community-based organizations.

Police Academy—A cooperative program for providing basic police training and continuing education classes to maintain the quality of the existing police force. The agreement encourages the sharing of instructional staff, facilities, and programs. The Community College also administers a program for Private Security Licensing and Training.
Career Center—Outreach program for Spanish and Bosnian speaking immigrants for career counseling, job placement, on-the-job training, and acculturation and ESL instruction.
Metropolitan Education Training Center (MET)—An innovative collaboration among state and local government, St. Louis Community College, and other community based agencies. The MET Center offers a variety of training opportunities that afford area residents skills necessary to enter into productive, long-term employment.

ACCOMMODATIONS FOR CONTINUING EDUCATION STUDENTS
Students with disabilities requiring special accommodations should talk to an Access staff member in the Continuing Education office.

St. Louis Community College at Florissant Valley
3400 Pershall Road
St. Louis, MO 63135-1408
(314) 513-4242
(314) 513-4795 (TDD)

St. Louis Community College at Forest Park
5600 Oakland Avenue
St. Louis, MO 63110-1316
(314) 644-9249
(314) 644-9093 (TDD)

St. Louis Community College at Meramec
11333 Big Bend Boulevard
Kirkwood, MO 63122-5720
(314) 984-7704
(314) 984-7744 (TDD)

St. Louis Community College Foundation

Mission
The St. Louis Community Foundation creates and fosters community linkages that support and advance the College’s mission of providing excellent educational opportunities for its students and the community by soliciting and administering gifts and funds for College endowment, capital projects, scholarships, and other programs.

Purpose
The St. Louis College Foundation was established to provide private financial support for students and college programs. Funds are used to provide various types of support including scholarships, faculty development, program support, and capital needs. The Foundation supports more than 50 scholarships and a wide range of projects throughout the College’s campuses and educational centers.
**Education Centers**

The College's full-service education centers in South and West County are operated through the Meramec campus. At the South County Education and University Center and the West County Education Center, students can complete general education requirements toward a bachelor's degree, freshman and sophomore requirements for admission to upper-level business program, and general studies coursework. The Downtown Training Center, operated through the Center for Business, Industry and Labor, offers classes, seminars and workshops. In addition, classrooms, a computer lab and meeting rooms are available to businesses for employee training and job upgrading.

The Harrison Northside Education Center, operated through the Forest Park campus, offers classes on-site and coordinates other educational programs and services throughout North St. Louis City.

For more information about one of the education centers write or call:

**Joseph P. Cosand**  
**Community College Center**  
300 South Broadway  
St. Louis, MO 63102-2800  
(314) 539-5000  
(314) 539-5399 (TDD)

**South County Education and University Center**  
(SCEUC)  
4115 Meramec Bottom Road  
St. Louis, MO 63129-2126  
(314) 984-7200  
(314) 984-7200 (TDD)

**West County Education Center (WCEC)**  
The Barn at Lucerne  
930 Kehrs Mill Road  
Ballwin, MO 63011-2402  
(314) 984-7400  
(314) 984-7400 (TDD)

**William J. Harrison**  
**Northside Education Center (HNEC)**  
4666 Natural Bridge Road  
St. Louis, MO 63115-1923  
(314) 951-9850  
(314) 644-9093 (TDD)
College Programs

CAREER PROGRAMS
These programs are designed to help you develop or improve job skills. Selected courses from career programs may transfer to four-year institutions. See an academic adviser or counselor for information concerning transferability of courses.

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<td>Electronics: Microprocessor</td>
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<td>Safety Option</td>
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<td>Baking and Pastry Art</td>
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<td>Human Services: Options</td>
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<td>CART and Captioning Reporting</td>
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<td>Broadcast Captioning</td>
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<td>Information Systems</td>
<td>AAS</td>
<td>FP</td>
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<td>Computer Network Specialist</td>
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<td>Microcomputer Support Specialist</td>
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<td>Office Information Coordinator</td>
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<td>FP</td>
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<tr>
<td>Programmer/Analyst</td>
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<td>FP</td>
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<td>Information Systems</td>
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<td>Information Technology: Network Administration</td>
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<td>Interior Design</td>
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<td>Kitchen and Bath Design</td>
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<td>Landscapes and Gardening</td>
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<td>Lead Maintenance Mechanic</td>
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<td>Legal Studies for the Paralegal</td>
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<td>Maintenance Mechanic</td>
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<td>Mammography Technology</td>
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Note: Programs may not always be available at the campus indicated.
**College Programs (cont’d)**

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<td>FV/M</td>
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<td><strong>Management and Supervisory Development</strong></td>
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<td><strong>Manufacturing Technology: Options</strong></td>
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<td><strong>Computer</strong></td>
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<td><strong>Design</strong></td>
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<td><strong>Production</strong></td>
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<td><strong>Mass Communications: Options</strong></td>
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<td><strong>Print</strong></td>
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<tr>
<td><strong>Broadcasting</strong></td>
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<td><strong>Mechanical Engineering Technology</strong></td>
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<tr>
<td><strong>Medical Billing and Coding</strong></td>
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<td><strong>Medical Transcription</strong></td>
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<td><strong>Microcomputer Applications</strong></td>
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<td><strong>Microcomputer Programming</strong></td>
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<td><strong>Multimedia</strong></td>
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<td><strong>Oracle Developer</strong></td>
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<td><strong>Pharmacy Technician</strong></td>
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<td>FP</td>
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<td><strong>Phlebotomy</strong></td>
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<td><strong>Physical Therapist Assistant</strong></td>
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<td><strong>Plastics Technology</strong></td>
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<td><strong>Plumbing Design Engineering Technology</strong></td>
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<td><strong>Polysomnography Technology</strong></td>
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<td><strong>Quality Technology</strong></td>
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<td><strong>Radiologic Technology</strong></td>
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<td><strong>Real Estate</strong></td>
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<td><strong>Real Estate Appraisal</strong></td>
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<td><strong>Respiratory Therapy</strong></td>
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<td><strong>Robotics Technology</strong></td>
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<td><strong>Sales</strong></td>
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**Skilled Trades Industrial Apprenticeship Training: Options**

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<td><strong>Electrician</strong></td>
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<tr>
<td><strong>Millwright</strong></td>
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<tr>
<td><strong>Plumbing &amp; Pipefitting</strong></td>
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<td><strong>Tool &amp; Die</strong></td>
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<td><strong>Welder Repair</strong></td>
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**Skilled Trades Industrial Training**

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<td><strong>Technical/Business Communication</strong></td>
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<td><strong>Technology Education</strong></td>
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<td><strong>Telecommunications Engineering Technology</strong></td>
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<td><strong>Basic Electronics Option</strong></td>
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<td><strong>Travel and Tourism</strong></td>
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<tr>
<td><strong>Travel and Tourism Foundations</strong></td>
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<td>94</td>
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<tr>
<td><strong>Voice/Data Communications</strong></td>
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<tr>
<td><strong>Web Development</strong></td>
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**Note:** Programs may not always be available at the campus indicated.
Accreditation and Approval

St. Louis Community College and its campuses are accredited by the Higher Learning Commission of the North Central Association of Colleges and Secondary Schools, 30 North LaSalle St., Suite 2400, Chicago, IL 60602-2504, Telephone: (312) 263-0456.

The College is a member of the League for Innovation in the Community College. The League is a nonprofit educational consortium of resourceful community colleges. The League’s mission is to stimulate experimentation and innovation in all areas of community college development and serves as a catalyst, project incubator, and experimental laboratory for all community colleges.

The following programs have been accredited or approved by the agencies listed.

**Collegewide:**
The College’s Emergency Medical Services programs have the associated approval of the Missouri Bureau of Emergency Medical Services.

Vocational and Teacher Education programs are approved by the Missouri Department of Elementary and Secondary Education.

The nursing programs at each campus are accredited by the National League for Nursing Accrediting Commission, 61 Broadway, New York City, N.Y. 10006, 212-363-5555.

**Florissant Valley:**

- **Nursing**
  - National League for Nursing
  - Missouri State Board of Nursing

- **Dietetic Technology**
  - American Dietetic Association

- **Art**
  - National Association of Schools of Art and Design

- **Chemical Technology**
  - American Chemical Society

- **Electronic Engineering Technology**
  - Technology Accreditation Commission of Accreditation Board for Engineering and Technology

- **Mechanical Engineering Technology**
  - Technology Accreditation Commission of the Accreditation Board for Engineering and Technology

**Forest Park:**

- **Clinical Lab**

- **Allied Health**
  - Commission on Accreditation of Allied Health Education Programs
  - National Accrediting Agency for Clinical Laboratory Science

  - Missouri Dental Board

- **American Dental Association Commission on Dental Accreditation Committee on Accreditation-American Board of Funeral Service Education

- **Board of Review for Associate Degree Programs-National League of Nursing

- **Missouri State Board of Nursing

- **Joint Review Committee on Education in Diagnostic Medical Sonography

- **Joint Review Committee on Education in Radiologic Technology

- **Commission on Accreditation for Respirator Care

- **Accreditation Review Committee on Education in Surgical Technology

- **Automotive Technology and Ford ASSET National Automotive Technicians Education Foundation, Inc.

**Meramec:**

- **Art**
  - National Association of Schools of Art and Design

- **Information Reporting Technology**
  - National Court Reporters Association

- **Nursing**
  - National League for Nursing
  - Missouri State Board of Nursing

- **Occupational Therapy Assistant**
  - American Occupational Therapy Association

- **Physical Therapy Assistant**
  - American Physical Therapy Association

**Articulation Agreements**

**Signed Articulation Agreements**

- Capella University
- Central Missouri State University
- Fontbonne University
- Harris Stowe State University
- Kansas City Art Institute
- Lindenwood University
- Logan University
- Maryville University
- Missouri Baptist University
- National Louis University
- Rolla Technical Center
- Southeast Missouri State University

**Program Area**

- General Transfer
- Occupational Education
- Gen Ed Requirements
- Health Care Management
- AFA/BFA
- Accounting
- Hospitality Services Management
- Industrial Technology
- Mortuary Management
- Articulation-General/BA or BS degrees
- Pre-chiropractic
- Accounting
- Accounting Information Systems
- Business Administration
- Accepts AA degree as meeting Gen Ed requirement
- Early Childhood and Elementary Education
- B.A. - Applied Behavioral Sciences
- B.S. - Management
- Dental Hygiene (distance learning)
- General Transfer
- General Studies
- Horticulture
- Industrial Engineering
- Occupational Education

- Occupation Education
- Paramedic Technology

- Construction Technology (AAS)
- Pharmaceutical Sciences
- Business Administration
- Memorandum of Understanding
- Concerning Transfer of International Undergraduate Students
- Early Care and Education
- General Transfer
- Studio Art (AFA/BFA)
- Art Education (AFA/BFA)
- Horticulture
- Industrial Engineering
- Occupational Education
- Teacher Education
- Associate in Science-Physics Option
- Accepts AA degree

William Woods University
Section 2

COLLEGE PROGRAMS
ASSOCIATE IN ARTS DEGREE PROGRAM

St. Louis Community College offers an associate in arts degree program with several areas of concentration. The associate in arts degree is designed for students planning to transfer and complete requirements for a bachelor’s degree at a four-year college or university. Students should plan their transfer program carefully and become familiar with program requirements at the institution to which they plan to transfer. Many bachelor degree programs have very specific requirements for the freshman and sophomore years and it is the transferring student’s responsibility to ensure that courses will apply to the bachelor’s degree. Students are encouraged to talk to a counselor or advisor to assist in planning a program of study or if they are considering a change in academic plans. The freshman- and sophomore-level courses outlined for the associate in arts degree offer a good introduction to a variety of subjects as well as the opportunity to concentrate in a particular area. Students who complete the following requirements will have satisfied all general education requirements of all Missouri public college or university to which they transfer, except the University of Missouri, Columbia.

To earn an associate in arts degree, students must complete 42 to 45 hours of general education courses in the areas listed below. The remaining requirements are specified in an area of concentration for each AA program. General transfer students may fulfill their 18 to 21 hours of electives by concentrating in a general education discipline or taking courses from a variety of disciplines.

Missouri General Education Course Requirements

Students who complete the general education requirements will have “Missouri General Education requirements” noted on their transcripts. Students who achieve their certification will have satisfied all general education requirements at any Missouri public college or university to which they may transfer, except the University of Missouri-Columbia.

St. Louis Community College General Education Course Requirements

A minimum total of 42 credit hours is required from the following courses:

<table>
<thead>
<tr>
<th>Foundation Level</th>
<th>13 credits</th>
<th>Main Floor</th>
<th>25-28 credits</th>
<th>Capstone</th>
<th>4 credits</th>
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</thead>
<tbody>
<tr>
<td>Cornerstone is a three-credit introductory course that introduces students to the overall goal of general education and will explore the moral and ethical values of a diverse society in order to understand their own decision-making process. The remaining foundation courses allow students to build the skill they need as they move through the curriculum.</td>
<td></td>
<td>These courses make up the bulk of the General Education program. Each course will address institutional competencies for the appropriate knowledge goal and will reinforce at least one skill goal.</td>
<td></td>
<td>The capstone is a four-credit-hour culminating experience for the general education program. It will provide an opportunity for students who put to use all of the skills and knowledge they have acquired throughout their general education program. The capstone may be interdisciplinary context and will allow for some exit assessment.</td>
<td></td>
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<tr>
<td>• IDS:101 Cornerstone Course</td>
<td>3 credits</td>
<td>• Humanities and Fine Arts</td>
<td>6 credits</td>
<td>• IDS:201</td>
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<tr>
<td>• ENG:101 College Composition I</td>
<td>3 credits</td>
<td>• Missouri State Requirement</td>
<td>3 credits</td>
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<td></td>
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<tr>
<td>• COM:101 Oral Communication I</td>
<td>3 credits</td>
<td>• Life and Physical Sciences</td>
<td>7-10 credits</td>
<td>(1 with lab)</td>
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<tr>
<td>• MTH:160 College Algebra</td>
<td>4 credits</td>
<td>• Social and Behavioral Sciences</td>
<td>6 credits</td>
<td>General Education Elective*</td>
<td></td>
</tr>
<tr>
<td>(or higher except 165 and 166)</td>
<td></td>
<td>• General Education Elective*</td>
<td>3 credits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Of the main floor courses, two must be speaking-intensive and two must be writing-intensive. Refer to the semester course schedule to find such courses.

Total Credit Hours Required: 42-45

* Any main floor course, as well as any mathematics course numbered above 160 (except MTH:165 and 166), may be used as an elective.

DEGREE CONCENTRATIONS

St. Louis Community College is a good place to begin a college program in a traditional academic area. It offers the basic curriculum core that is the foundation for majoring in any subject the student may ultimately choose. Completing the General Transfer Studies concentration will prepare a student with the essential first two years of a Baccalaureate degree, while retaining flexibility that will accommodate selecting a major field later or changing to a different one from what the student is interested in now.

Students who have definite ideas about their academic interests may find a specific associate in arts concentration that will fit them. Undecided students or students who wish to keep their academic programs more adaptable should choose the General Transfer Studies concentration. The College offers the following concentrations:

Business Administration, Communications Arts, Life Sciences, Computer Science, Mathematics, General Transfer (including International Studies and Criminal Justice options), Music, and Teacher Education.

GENERAL EDUCATION COURSES

A list of approved General Education courses is available on the college’s web site. For the latest updated list of approved General Education Courses, contact a counselor or advisor.
Art

SEE ASSOCIATE IN FINE ARTS DEGREE PROGRAM

Business Administration

ASSOCIATE IN ARTS DEGREE
Florissant Valley, Forest Park and Meramec

This program offers students the first four semesters of a bachelor’s degree in business administration. Students take courses in communications, humanities, science, mathematics and social science as well as basic business courses in accounting, economics, management and data processing.

Potential students should be interested in managing business transactions and working with other people. They should have a good math background and the flexibility to work in a variety of situations.

Graduates may transfer to any four-year college or university which offers a degree in business administration. Students are strongly advised to work closely with a counselor or advisor to ensure transferability of courses to a particular institution.

Graduates work in finance, production, marketing, personnel, accounting, management and statistics as management trainees, sales representatives and administrative assistants in all areas of commerce and industry for companies and organizations of all sizes.

I. General Education 42-45 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>IDS:101 Cornerstone</td>
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<td>ENG:101 College Composition</td>
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<tr>
<td>COM:101 Oral Communication</td>
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<tr>
<td>MTH:160 College Algebra (or higher)</td>
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<td>XXX:xxx Missouri State Requirement</td>
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<tr>
<td>ECO:151 Principles of Macroeconomics</td>
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<tr>
<td>ECO:152 Principles of Microeconomics</td>
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<tr>
<td>XXX:xxx Humanities and Fine Arts</td>
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</tr>
<tr>
<td>Life and Physical Sciences (one lab course required)</td>
<td>7-10</td>
</tr>
<tr>
<td>XXX:xxx General Education Elective</td>
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<tr>
<td>IDS:201 Capstone</td>
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</table>

II. Physical Education Activity 2 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC:110 Financial Accounting I</td>
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<tr>
<td>ACC:114 Managerial Accounting</td>
<td>3</td>
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<tr>
<td>BUS:104 Introduction to Business Administration</td>
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</table>

Select three courses from:

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS:101 Business Law I (or)</td>
<td>3</td>
</tr>
<tr>
<td>BLW:201 Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS:201 Elementary Statistics (or)</td>
<td>3</td>
</tr>
<tr>
<td>BUS:202 Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>IB:100 International Business</td>
<td>3</td>
</tr>
<tr>
<td>IS:103 Information Systems for Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT:204 Business Organization and Management</td>
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</tr>
<tr>
<td>MKT:203 Principles of Marketing</td>
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Program total 66-69 credits

III. Area of Concentration 22 credits

<table>
<thead>
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<tbody>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
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Select two courses from:

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS:101 Business Law I (or)</td>
<td>3</td>
</tr>
<tr>
<td>BLW:201 Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS:201 Elementary Statistics (or)</td>
<td>3</td>
</tr>
<tr>
<td>BUS:202 Statistical Analysis</td>
<td>3</td>
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<tr>
<td>IB:100 International Business</td>
<td>3</td>
</tr>
<tr>
<td>IS:103 Information Systems for Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT:204 Business Organization and Management</td>
<td>3</td>
</tr>
<tr>
<td>MKT:203 Principles of Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

IV. Electives 1-4 credits

Students should consult advisors in selection of optional courses and electives based upon the college to which the student plans to transfer.

Communications Arts

ASSOCIATE IN ARTS DEGREE
Florissant Valley, Forest Park and Meramec

This program provides students with the first two years of study toward a bachelor’s degree at a four-year college or university. Students take fundamental courses common to most communications programs with a concentration in one of 12 options.

The communications field is composed of the areas of print and broadcast media and other forms of communication used to entertain, educate and inform others. A wide range of positions involving various creative skills is available in these areas.
Student are strongly advised to familiarize themselves with the communications programs at the schools to which they plan to transfer and work with advisers at St. Louis Community College to plan a program to meet those requirements.

I. **General Education** 42-45 credits
   - IDS:101 Cornerstone .................................. 3
   - ENG:101 College Composition I ...................... 3
   - MTH:160 College Algebra or higher ................. 4
   - COM:101 Oral Communication I....................... 3
   - XXX:xx Missouri State Requirement ................3
   - XXX:xx Social and Behavioral Sciences ............. 6
   - XXX:xx Humanities and Fine Arts ................... 6
   - XXX:xx Life and Physical Sciences ................. 7-10
     (one lab course required)
   - XXX:xx General Education Elective ................. 3
   - IDS:201 Capstone .................................... 4

II. **Physical Education Activity** 2 credits

III. **Area of Concentration** 12 credits
    Complete one of the options listed below

IV. **Electives** 6-8 credits

Program total .................. 64 credits

**Film Option**
Required:
- MCM:101 Introduction to Mass Communications
Select three courses:
- MCM:121 Television Production
- MCM:123 Broadcast Journalism
- MCM:130 Film Appreciation
- MCM:131 History of Film
- MCM:132 Major Themes in Film
- MCM:134 Filmmaking
- MCM:201 Media Internship I
- MCM:202 Media Internship II
- MCM:215 Major Film Directors
- MCM:216 Filmmaking II

**Foreign Language Option**
Twelve credits in any foreign language

**Journalism Option**
Required:
- MCM:101 Introduction to Mass Communications
- MCM:110 Journalism I: Writing and Reporting
- MCM:112 Feature Writing
Select one course from:
- MCM:111 Journalism II: Editing and Design
- MCM:113 Applied Journalism
- MCM:114 Photojournalism
- MCM:201 Media Internship I
- MCM:202 Media Internship II

**Literature Option**
Select 12 credits from:
- ENG:201 Introduction to Fiction
- ENG:202 Introduction to Poetry and Plays
- ENG:203 American Literature
- ENG:204 American Literature Before 1865
- ENG:205 American Literature After 1865
- ENG:206 Modern American Literature
- ENG:207 Humor in American Literature
- ENG:210 British Literature Before 1800
- ENG:211 British Literature After 1800
- ENG:213 The Short Novel
- ENG:214 Contemporary Fiction
- ENG:215 Popular Literature: Fantasy and Horror
- ENG:216 Women in Literature
- ENG:217 Major Black Writers
- ENG:218 Literature of American Minorities
- ENG:222 Major British Writers
- ENG:226 Children's Literature
- ENG:228 Studies in Literature

**Multimedia Option**
Select 12 credits from:
- MCM:101 Introduction to Mass Communications
- MCM:110 Journalism I: Writing and Reporting
- MCM:120 Introduction to Broadcasting
- MCM:130 Film Appreciation
- MCM:140 Introduction to Advertising
Organizational Communication Option
Select 12 credits from:
COM:104 Persuasion
COM:105 Interview Process
COM:109 Conference Leadership/Decision Making
COM:110 Organizational Communication
MCM:201 Media Internship I
MCM:202 Media Internship II
IS:103 Information Systems for Business (or)
MCM:101 Introduction to Mass Communications (or)
COM:102 Oral Communications II (or)
COM:103 Small Group Communication (or)
COM:107 Public Speaking (or)
COM:108 Business/Technical Presentation

Speech Communication Option
Select 12 credits from:
COM:102 Oral Communication II
COM:103 Small Group Communication
COM:104 Persuasion
COM:105 Interview Process
COM:107 Public Speaking
COM:108 Business/Technical Presentation
COM:110 Organizational Communication
COM:111 Voice and Articulation
COM:112 Argumentation and Debate
COM:114 Oral Interpretation of Literature

Technical/Business Communication Option
Required:
ENG:219 Advanced Report Writing
COM:108 Business/Technical Presentation
Select 12 credits from:
COM:103 Small Group Communication
COM:105 Interview Process
COM:109 Conference Leadership/Decision Making
COM:110 Organizational Communication
MCM:110 Journalism I: Writing and Reporting
MCM:111 Journalism II: Editing and Design
MCM:112 Feature Writing
MCM:140 Introduction to Advertising
MCM:142 Applied Advertising
Six of the above 18 hours may apply toward program electives.

Theatre Arts Option
Select 12 credits from:
COM:111 Voice and Articulation
COM:114 Oral Interpretation of Literature
THT:101 Introduction to Theatre
THT:102 Stagecraft
THT:103 Stage Design and Lighting
THT:106 Theatre Practicum
THT:107 Playwriting
THT:108 Acting I
THT:109 Acting II
THT:110 History of Theatre

Computer Science
ASSOCIATE IN ARTS DEGREE
Floressant Valley, Forest Park and Meramec
This program provides students with the first two years of study toward a bachelor’s degree at a four-year college or university. Persons with computer science skills design, engineer, produce, implement, sell or service systems for computer manufacturers. Others are employed by computer users to analyze jobs, translate them into computer language, refine programs or operate systems on a daily basis.

Students are strongly advised to familiarize themselves with the computer science program at the schools to which they plan to transfer. The general education component is designed to meet receiving institutions’ guidelines. They should contact a counselor or advisor at St. Louis Community College to plan a program to meet those requirements.

This program is currently being revised from an Associate in Arts degree to an Associate in Science degree. See the program coordinator or an academic advisor for additional information.

General Education
CERTIFICATE OF GENERAL EDUCATION
Floressant Valley, Forest Park and Meramec
The certificate of general education gives students a solid basis for further study. It is designed to broaden awareness and widen horizons, cultivate the intellect, and prepare students to be lifelong learners. It provides a broad introduction to a range of disciplines as well as teaching essential skills (communicating, higher-order thinking, managing information, and valuing) that will serve students well in life and in their future education.

I. Foundation Level 13 credits
IDS:101 Cornerstone ......................... 3
ENG:101 College Composition I ............. 3
COM:101 Oral Communication I ............. 3
MTH:160 College Algebra ................... 4

II. Main Floor 25-28 credits
Humanities and Fine Arts ................... 6
Missouri State Requirements ................ 3
Life and Physical Sciences (1 with lab) .... 7-10
Social and Behavioral Sciences ........... 6
General education Elective .................. 3

Of the main floor courses, two must must be speaking-intensive and two must be writing-intensive. Refer to the semester course schedule to find such courses.

III. Capstone 4 credits
IDS:201 Capstone ......................... 4

Program total .................. 42-45 credits
General Transfer Studies

ASSOCIATE IN ARTS DEGREE
Florissant Valley, Forest Park and Meramec

The General Transfer Studies degree program provides students with the first two years of study toward a bachelor’s degree with a major in almost any area at a four-year college or university. Students completing the general transfer studies degree requirements will have completed the 42 hours of general education for all public colleges and universities in Missouri. These courses from various general areas become the foundation for advanced study in areas such as humanities, the social sciences, mathematics, communications, economics, languages, and the fine arts.

I. General Education 42-45 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS:101</td>
<td>Cornerstone</td>
<td>3</td>
</tr>
<tr>
<td>ENG:101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:160</td>
<td>College Algebra or higher</td>
<td>4</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Missouri State Requirement</td>
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</tr>
<tr>
<td>XXX:xxx</td>
<td>Social and Behavioral Sciences</td>
<td>6</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Humanities and Fine Arts</td>
<td>6</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Life and Physical Sciences</td>
<td>7-10</td>
</tr>
<tr>
<td></td>
<td>(one lab course required)</td>
<td></td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>General Education Elective</td>
<td>3</td>
</tr>
<tr>
<td>IDS: 201</td>
<td>Capstone</td>
<td>4</td>
</tr>
</tbody>
</table>

Completing these general education requirements with a minimum of 42 credit hours will assure the student transferring to a public institution in Missouri of completion of all general education requirements. The student's transcript will carry the note "Missouri General Education Requirements completed." If the student completes these requirements and earns the associate in arts degree, he/she will be able to transfer at the junior level into the general range of baccalaureate degree programs offered by the public four-year colleges and universities.

II. Physical Education Activity 2 credits

III. Electives 18-21 credits

The electives allow the student to continue to explore various subjects at an introductory level or, as many students prefer, to begin working toward an academic major by concentrating in a particular area. The student interested in psychology, for example, might choose to take such courses as PSY:206, Introduction to Social Psychology, and PSY:208, Abnormal Psychology, as well as the mathematics courses that the student will need to prepare for the more advanced psychology courses at the transfer institution.

As another example, the student wishing to major in English would want to take some literature courses, such as ENG:201, Introduction to Fiction, or ENG:204, American Literature Before 1865, as well as the required composition courses. He/she should also begin the study of foreign language required for most English majors.

Program total 64 credits

Students should plan their transfer programs carefully and become familiar with the requirements at the institution to which they plan to transfer. Many bachelor degree programs have very specific requirements for the freshman and sophomore years, and it is the transferring student's responsibility to ensure that courses will apply to the bachelor's degree. Students are encouraged to talk to a counselor or advisor to assist in planning a program of study or if they are considering a change in academic plans. Very detailed information about the requirements of many transfer institutions is available in the counseling offices.

Missouri public colleges and universities, as well as most private institutions, require three semesters (12 to 13 credit hours) of a foreign language for the Bachelor of Arts degree.

General Transfer Studies: Criminal Justice Option

ASSOCIATE IN ARTS DEGREE
Forest Park

This program is currently in the revision process. See your program coordinator or an academic advisor for additional information.

General Transfer Studies: International Studies Option

ASSOCIATE IN ARTS DEGREE
Forest Park

This program enhances student’s understanding of the forces and issues shaping the contemporary world. The program is especially beneficial to students planning to transfer to four-year colleges and universities and to students desiring international education. Students acquire the understanding, knowledge and skills necessary to function in a politically, economically and culturally interdependent world society.

Students who complete the Certificate of Specialization in International Studies may apply all of those courses towards this degree option.

I. General Education 44-47 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS:101</td>
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<tr>
<td>ENG:101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:160</td>
<td>College Algebra or higher</td>
<td>4</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Missouri State Requirement</td>
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</tr>
<tr>
<td>XXX:xxx</td>
<td>Social and Behavioral Sciences</td>
<td>6</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Life and Physical Sciences</td>
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<tr>
<td></td>
<td>(one lab course required)</td>
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<td>XXX:xxx</td>
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Main Floor 27-30 credits

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<tbody>
<tr>
<td>XXX:xxx - Humanities and Fine Arts</td>
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<tr>
<td>Foreign Language: Two semesters of</td>
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<tr>
<td>the same language required.</td>
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<tr>
<td>XXX:xxx - Missouri State Requirement</td>
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</tr>
<tr>
<td>XXX:xxx - Life and Physical Sciences</td>
<td>6</td>
</tr>
<tr>
<td>(one lab course required)</td>
<td>7-10</td>
</tr>
<tr>
<td>XXX:xxx - Social and Behavioral Sciences</td>
<td>6</td>
</tr>
<tr>
<td>XXX:xxx - General Education elective</td>
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Capstone 4 credits

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS:201</td>
<td>4</td>
</tr>
</tbody>
</table>

Program total 64 credits
II. Physical Education Activity  

2 credits

III. Area of Concentration 18 credits

PSC:201 International Relations (required) ........3
Select from at least three of the following: ............15
Anthropology
Art
Communications
Economics
English
French
Geography
History
Humanities
International Business
Mass Communications
Music
Philosophy
Political Science
Spanish

Examples of courses that meet the area of concentration requirements:

ANT:103 Cultural Variations
HST:119 The Modern World
HST:205 History of Modern Middle East
HUM:101 Humanities I
PHL:103 World Religions
PSC:204 Politics of African Nations
PSC:211 US Foreign Policy

Advisors and counselors have a complete list of courses that meet the area of concentration requirements.

Program total ............... 64-67 credits

CERTIFICATE OF SPECIALIZATION

Forest Park

Although this program is designed primarily for college transfer students, other students may gain benefits from their jobs or personal satisfaction by taking all or selected courses in the program.

Courses Credits
PSC:107 Introduction to International Studies ........3
ANT:103 Cultural Variations .......................3
PSC:201 International Relations ....................3
XXX:xxx Foreign Language .........................6
International Studies elective chosen from ..........3
PHL:103 World Religions
HST:119 The Modern World
SPA:106 Introduction to Latin American Civilization
IB:100 Introduction to International Business
XXX:xxx Approved Course

Program total ............... 18 credits

Life Sciences

ASSOCIATE IN ARTS DEGREE
Florissant Valley, Forest Park and Meramec

This program provides students with the first two years of study toward a bachelor of science degree at a four-year college or university. Students take fundamental science and humanities courses and continue their studies in specialized areas such as biology, chemistry and other specialties after they transfer.

The life sciences include exciting fields that are leading the way into the “age of biology.” Professions within the life science field vary widely from the health sciences to biological sciences. Areas of study include biotechnology, plant science, medical sciences, ecology, dental science, chiropractor and pharmacists.

In addition to a high school diploma or GED certificate, other requirements are necessary for enrollment in the life science program. For specific information contact the campus Admissions office.

Students should make a decision early in their college studies concerning which college or university they would like to attend. They are strongly advised to familiarize themselves with the programs at the schools to which they plan to transfer and work with advisors at St. Louis Community College to plan a program to meet those requirements.

I. General Education 42 credits

IDS:101 Cornerstone ................................3
ENG:101 College Composition I ....................3
COM:101 Oral Communication I ....................3
MTH:160 College Algebra (or higher) ..............4
XXX:xxx Missouri State Requirement ..............3
XXX:xxx Social and Behavioral Sciences ...........6
XXX:xxx Humanities and Fine Arts .................6
CHM:105 General Chemistry I ....................5
CHM:106 General Chemistry II ...................5
IDS:201 Capstone ................................4

II. Physical Education Activity 2 credits

III. Area of Concentration 26 credits

BIO:140 Principles of Biology I ...................4
BIO:141 Principles of Biology II ..................4
CHM:206 Organic Chemistry Lecture I ............3
CHM:207 Organic Chemistry Lecture II ...........3
CHM:210 Organic Chemistry Laboratory I ..........2
CHM:211 Organic Chemistry Laboratory II ..........2
PHY:111 College Physics I .......................4
PHY:112 College Physics II .......................4

Program total .................... 70 credits
ASSOCIATE IN ARTS DEGREE
Florissant Valley, Forest Park and Meramec

This program provides students with the first two years of study toward a bachelor's degree at a four-year college or university in the areas of mathematics, engineering, actuarial science, computer science, secondary education or statistics.

Students are strongly advised to familiarize themselves with the mathematics or other major program at the school to which they plan to transfer and work with advisors at St. Louis Community College to plan a program to meet those requirements.

### I. General Education 46 credits

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
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<tr>
<td>ENG:101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102</td>
<td>College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:210</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Missouri State Requirement</td>
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<td>XXX:xxx</td>
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<td>XXX:xxx</td>
<td>Humanities Requirement</td>
<td>6</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Physics/Chemistry Requirement</td>
<td>10</td>
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</tbody>
</table>

Select from:
- CHM:105 General Chemistry I
- CHM:106 General Chemistry II
- CHM:206 Organic Chemistry Lecture I
- CHM:207 Organic Chemistry Lecture II
- CHM:210 Organic Chemistry Lab I
- CHM:211 Organic Chemistry Lab II
- PHY:122 Engineering Physics I
- PHY:223 Engineering Physics II
- PHY:224 Engineering Physics III

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
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<td>IDS:201</td>
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### II. Physical Education Activity 2 credits

### III. Area of Concentration 19 credits

<table>
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<th>Code</th>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ESC:101</td>
<td>Scientific Computer Programming (or)</td>
<td>3</td>
</tr>
<tr>
<td>IS:117</td>
<td>Pascal Programming</td>
<td>3</td>
</tr>
<tr>
<td>MTH:220</td>
<td>Analytical Geometry and Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MTH:230</td>
<td>Analytical Geometry and Calculus III</td>
<td>5</td>
</tr>
<tr>
<td>MTH:240</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MTH:215</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

### IV. Electives 3 credits

Select from:
- BIO: 140 or higher,
- CHM: 105 or higher,
- IS: 117 or higher,
- GEO:111 or higher,
- PHY: 122 or higher

Program total 70 credits

---

### Music

ASSOCIATE IN ARTS DEGREE
Florissant Valley, Forest Park and Meramec

This program provides students with the first two years of study toward a bachelor’s degree in music at a four-year college or university. Students take fundamental courses in music theory, music literature, class instruments and performing ensembles. Careers available in music include performing, composing and arranging music, music education, private instruction and music therapy.

Students are strongly advised to familiarize themselves with the music program at the school to which they plan to transfer and work with the advisors at St. Louis Community College to plan a program to meet those requirements.

### I. General Education 42-45 credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IDS:101</td>
<td>Cornerstone</td>
<td>3</td>
</tr>
<tr>
<td>ENG:101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102</td>
<td>College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:155</td>
<td>Survey of College Mathematics or</td>
<td></td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>higher level</td>
<td>4</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Missouri State Requirement</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Social Science requirements</td>
<td>6</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Humanities (non-music) requirement</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Humanities (music) requirement</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose three credits from:
- MUS:113, 114, 128, 211, 212

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS:201</td>
<td>Capstone</td>
<td>4</td>
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</table>

### II. Physical Education Activity 2 credits

### III. Area of Concentration 28 credits

<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>MUS:101</td>
<td>Music Theory I</td>
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<tr>
<td>MUS:102</td>
<td>Music Theory II</td>
<td>4</td>
</tr>
<tr>
<td>MUS:121</td>
<td>Class Piano I</td>
<td>2</td>
</tr>
<tr>
<td>MUS:122</td>
<td>Class Piano II</td>
<td>2</td>
</tr>
<tr>
<td>MUS:201</td>
<td>Music Theory III</td>
<td>4</td>
</tr>
<tr>
<td>MUS:202</td>
<td>Music Theory IV</td>
<td>4</td>
</tr>
<tr>
<td>MUS:221</td>
<td>Class Piano III</td>
<td>2</td>
</tr>
<tr>
<td>MUS:222</td>
<td>Class Piano IV</td>
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</tr>
<tr>
<td>MUS:xxx</td>
<td>Band, orchestra, choir</td>
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</tbody>
</table>

or jazz ensembles

Program total 72-75 credits
Teacher Education

ASSOCIATE IN ARTS DEGREE

Florissant Valley, Forest Park and Meramec

This program provides students with the first two years of study toward a bachelor’s degree at a four-year college or university. It is governed and accredited by the State of Missouri. In addition, this program meets the mid-preparation benchmarks of the performance standards established for pre-service teachers in the State of Missouri.

Students should familiarize themselves with education programs at four-year schools and determine which program they plan to pursue early in their coursework at St. Louis Community College. This will enable them to work with advisors and counselors to ensure a smooth transition to the school of their choice. The maximum number of credit hours in Teacher Education that will be accepted in transfer will vary among the transfer institutions.

A Teacher Education – Associate in Arts Degree requires:

- a cumulative GPA of 2.0 since this is the graduation requirement for an A.A. Degree from St. Louis Community College. However, the State of Missouri requires a cumulative G.P.A. of 2.5 for formal admission to a Teacher Education Program at a four-year institution.
- passing all five areas of the College Base Academic Skills Examination (CBASE)
- completion of a cumulative Portfolio which will be an integral part of the education coursework.

Teacher Education students should also be aware of the following information: cumulative G.P.A. and C-BASE score admission requirements at some four-year transfer institutions exceed the minimum state requirements. Students will be required to pass a criminal background check and a child abuse check to participate in school observation experiences. Any individual who has been convicted of a felony may not be licensed to teach in the State of Missouri. Students considering Teacher Education should have college level reading as demonstrated on the college placement test or completed developmental reading and/or writing coursework prior to entering the Teacher Education core courses. Students are expected to have college level oral and written language proficiencies and display clear, correct, and effective writing and speaking skills.

I. General Education 42-45 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>IDS:101</td>
<td>Cornerstone</td>
<td>3</td>
</tr>
<tr>
<td>ENG:101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:160</td>
<td>College Algebra or higher</td>
<td>3</td>
</tr>
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<td>XXX:xxx</td>
<td>Missouri State Requirement</td>
<td>4</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Social and Behavioral Sciences</td>
<td>6</td>
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</tr>
</tbody>
</table>

II. Physical Education 2 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

III. Area of Concentration 16 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>EDU:102</td>
<td>Computers in Education</td>
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</tr>
<tr>
<td>EDU:200</td>
<td>Introduction to Classroom Teaching</td>
<td>3</td>
</tr>
<tr>
<td>EDU:211</td>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>PSY:203</td>
<td>Child Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY:214</td>
<td>Adolescent Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDU:215</td>
<td>Principles of Teaching and Learning</td>
<td>3</td>
</tr>
<tr>
<td>EDU:216</td>
<td>Teacher Education Portfolio Development</td>
<td>1</td>
</tr>
</tbody>
</table>

* Electives 4-7 credits

* It is important to work with both a Community College advisor and an advisor at your transfer institution in selecting your electives.

* Students seeking Elementary certification can choose to complete an approved Economics course, an approved Geography course, or additional Education courses.

* Students seeking Secondary certification should select courses required for their specific area of certification in coordination with their transfer institution.

Program Total: 64 credit hours

NOTE: An additional requirement for graduating with this degree is that students must take and pass the College Basic Academic Skills Exam (CBASE).

ASSOCIATE IN FINE ARTS DEGREE PROGRAM

St. Louis Community College offers an associate in fine arts degree with three degree options—general fine arts, graphic communications and photography. The associate in fine arts is offered jointly with the University of Missouri-St. Louis and is designed for students planning to transfer to UM-St. Louis and earn the bachelor of fine arts degree. Freshman and sophomore courses take place at Florissant Valley, Forest Park and Meramec, and junior- and senior-level courses take place on the UM-St. Louis campus.
UM-St. Louis accepts all art courses taken at St. Louis Community College up to a maximum of 66 credit hours. Students should work with a counselor or advisor to ensure their courses will transfer. UM-St. Louis admission counselors are available at Florissant Valley, Forest Park and Meramec to help students complete their transfer applications.

### Art Education Option

**ASSOCIATE IN FINE ARTS DEGREE**  
**Florissant Valley, Forest Park and Meramec**

This transfer option is designed to provide students with the first two years of study towards a professional degree in art education. Upon completion of the AFA - Art Education Option, students can successfully transfer to the University of Missouri-St. Louis to earn a bachelor of fine arts degree in art education or to other four-year art schools or colleges to complete the last two years toward a professional art education degree. Students are strongly advised to familiarize themselves with the art education program at the school to which they plan to transfer and work with advisors at St. Louis Community College to plan a program to meet those requirements.

The AFA - Art Education Option is governed and accredited by the state of Missouri and meets the mid-preparation benchmarks of the performance standards established for pre-service teachers in the State of Missouri. Students should work in consultation with both art and education advisors and will complete required courses in general education, art and professional education. Persons interested in this program should possess a strong interest in the visual arts and a desire to teach at the elementary or secondary level. Students are expected to have college level reading, oral and written language proficiencies and display clear, correct, and effective writing and speaking skills.

#### General Education 23 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG: 101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM: 101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>XXX: xxx</td>
<td>Missouri State Requirement</td>
<td>3</td>
</tr>
<tr>
<td>PSY: 200</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY: 203</td>
<td>Child Psychology (or)</td>
<td>3</td>
</tr>
<tr>
<td>PSY: 205</td>
<td>Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>MTH: 155</td>
<td>Survey of College Mathematics (or)</td>
<td>3</td>
</tr>
<tr>
<td>MTH: 160</td>
<td>College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>XXX: xxx</td>
<td>Science Elective with lab</td>
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</tr>
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</table>

#### Physical Education Requirement 2 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ART: 101</td>
<td>Art History I</td>
<td>3</td>
</tr>
<tr>
<td>ART: 102</td>
<td>Art History II</td>
<td>3</td>
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</table>

#### Area of Concentration 22 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ART: 107</td>
<td>Design I</td>
<td>2</td>
</tr>
<tr>
<td>ART: 108</td>
<td>Design II</td>
<td>2</td>
</tr>
<tr>
<td>ART: 109</td>
<td>Drawing I</td>
<td>2</td>
</tr>
<tr>
<td>ART: 110</td>
<td>Drawing II</td>
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<tr>
<td>ART: 111</td>
<td>Figure Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART: 131</td>
<td>Computer Art Studio</td>
<td>3</td>
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</tbody>
</table>

### General Fine Arts Option

**ASSOCIATE IN FINE ARTS DEGREE**  
**Florissant Valley, Forest Park and Meramec**

This program is designed for students planning to transfer to the University of Missouri-St. Louis and other four-year art schools and colleges and earn a bachelor of fine arts degree. Students may experience both two- and three-dimensional art work through courses in painting, figure drawing, ceramics, sculpture, printmaking and design. Persons interested in this program should possess a strong interest in the visual world and a desire to produce work using traditional as well as non-traditional techniques.

#### General Education 25 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG: 101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG: 102</td>
<td>College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>XXX: xxx</td>
<td>Missouri State Requirement</td>
<td>3</td>
</tr>
<tr>
<td>XXX: xxx</td>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>MTH: 155</td>
<td>Survey of College Mathematics (or)</td>
<td>3</td>
</tr>
<tr>
<td>MTH: 160</td>
<td>College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>XXX: xxx</td>
<td>Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>ART: 101</td>
<td>Art History I</td>
<td>3</td>
</tr>
<tr>
<td>ART: 102</td>
<td>Art History II</td>
<td>3</td>
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#### Physical Education Requirement 2 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART: 107</td>
<td>Design I</td>
<td>2</td>
</tr>
<tr>
<td>ART: 108</td>
<td>Design II</td>
<td>2</td>
</tr>
<tr>
<td>ART: 109</td>
<td>Drawing I</td>
<td>2</td>
</tr>
<tr>
<td>ART: 110</td>
<td>Drawing II</td>
<td>2</td>
</tr>
<tr>
<td>ART: 111</td>
<td>Figure Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART: 207</td>
<td>Design III</td>
<td>2</td>
</tr>
<tr>
<td>ART: 208</td>
<td>Design IV</td>
<td>2</td>
</tr>
<tr>
<td>ART: 211</td>
<td>Figure Drawing III</td>
<td>3</td>
</tr>
<tr>
<td>ART: 209</td>
<td>Drawing III</td>
<td>3</td>
</tr>
<tr>
<td>ART: 210</td>
<td>Advanced Drawing</td>
<td>3</td>
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</table>

| Area of Concentration 29 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART: 107</td>
<td>Design I</td>
<td>2</td>
</tr>
<tr>
<td>ART: 108</td>
<td>Design II</td>
<td>2</td>
</tr>
<tr>
<td>ART: 109</td>
<td>Drawing I</td>
<td>2</td>
</tr>
<tr>
<td>ART: 110</td>
<td>Drawing II</td>
<td>2</td>
</tr>
<tr>
<td>ART: 111</td>
<td>Figure Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART: 207</td>
<td>Design III</td>
<td>2</td>
</tr>
<tr>
<td>ART: 208</td>
<td>Design IV</td>
<td>2</td>
</tr>
<tr>
<td>ART: 211</td>
<td>Figure Drawing III</td>
<td>3</td>
</tr>
<tr>
<td>ART: 209</td>
<td>Drawing III</td>
<td>3</td>
</tr>
<tr>
<td>ART: 210</td>
<td>Advanced Drawing</td>
<td>3</td>
</tr>
</tbody>
</table>
using traditional as well as non-traditional techniques. Persons interested in this program should possess purchase, package and publication design; printing techniques origination and development; use of computers; logos, point-of-each to earn a bachelor of fine arts degree. This program is designed for students planning to transfer to a four-year art school and the University of Missouri-St. Louis and earn a bachelor of fine arts degree. Students develop skills in black and white printing techniques; ways to gather information from visual images and use visual elements to form mental constructs; issues and ideas about photography; portrait, architectural, documentary, large format, industrial, field and figure fashion photography; and other areas. Persons interested in this program should possess a strong interest in the visual world and a desire to produce work using traditional as well as non-traditional techniques.

**Graphic Communications Option**

**ASSOCIATE IN FINE ARTS DEGREE**

**Florissant Valley, Forest Park and Meramec**

This program is designed for students planning to transfer to a four-year art school and the University of Missouri-St. Louis and earn a bachelor of fine arts degree. Students develop skills in black and white printing techniques; ways to gather information from visual images and use visual elements to form mental constructs; issues and ideas about photography; portrait, architectural, documentary, large format, industrial, field and figure fashion photography; and other areas. Persons interested in this program should possess a strong interest in the visual world and a desire to produce work using traditional as well as non-traditional techniques.

**General Education**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG:101 Art History I</td>
<td>3</td>
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<tr>
<td>ENG:102 Art History II</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx Missouri State Requirement</td>
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<tr>
<td>XXX:xxx Social Science Elective</td>
<td>3</td>
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<tr>
<td>XXX:xxx Science Elective</td>
<td>3</td>
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<tr>
<td>MTH:155 Survey of College Mathematics (or)</td>
<td>4</td>
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<td>MTH:160 College Algebra</td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AT:135 Graphic Production I</td>
<td>2</td>
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<tr>
<td>AT:235 Graphic Production II</td>
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</table>

**Photography Option**

**ASSOCIATE IN FINE ARTS DEGREE**

**Florissant Valley, Forest Park and Meramec**

This program is designed for students planning to transfer to a four-year art school and the University of Missouri-St. Louis and earn a bachelor of fine arts degree. Students develop skills in black and white printing techniques; ways to gather information from visual images and use visual elements to form mental constructs; issues and ideas about photography; portrait, architectural, documentary, large format, industrial, field and figure fashion photography; and other areas. Persons interested in this program should possess a strong interest in the visual world and a desire to produce work using traditional as well as non-traditional techniques.
ASSOCIATE IN SCIENCE DEGREE PROGRAM

The associate of science degree is a specialized degree intended for transfer into a pre-professional program. This degree is substantively different from both the associate in applied science and the associate in arts degrees. The associate in science provides an alternative to the associate of arts degree for those fields that require so much specialized work that the student cannot complete as much general education as the AA degree demands.

Engineering Science

ASSOCIATE IN SCIENCE DEGREE
Floissant Valley, Forest Park, Meramec

I. General Education 27 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
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<td>College Composition I</td>
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<tr>
<td>ENGLISH</td>
<td>College Composition II (or)</td>
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</tr>
<tr>
<td>ENG: 103</td>
<td>Report Writing (or)</td>
<td>3</td>
</tr>
<tr>
<td>ENG: 203</td>
<td>American Literature</td>
<td>3</td>
</tr>
<tr>
<td>MTH: 210</td>
<td>Analytical Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>CHM: 105</td>
<td>General Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>PHY: 122</td>
<td>Engineering Physics I</td>
<td>5</td>
</tr>
<tr>
<td>XXX: xxx</td>
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<td>3</td>
</tr>
<tr>
<td>XXX: xxx</td>
<td>Missouri State Requirement</td>
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II. Physical Education Activity 2 credits

<table>
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<tr>
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<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EGR: 100</td>
<td>Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 201</td>
<td>Engineering Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ESC: 204</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 205</td>
<td>Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 206</td>
<td>Strength of Materials Lab</td>
<td>1</td>
</tr>
<tr>
<td>ESC: 207</td>
<td>Engineering Thermodynamics (or)</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 202</td>
<td>Thermal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ME: 151</td>
<td>Manufacturing Processes I</td>
<td>3</td>
</tr>
<tr>
<td>ME: 249</td>
<td>Materials and Metallurgy*</td>
<td>3</td>
</tr>
<tr>
<td>CE: 240</td>
<td>Plane Surveying*</td>
<td>3</td>
</tr>
<tr>
<td>CE: 243</td>
<td>Introduction to Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>QC: 100</td>
<td>Introduction to Quality Control*</td>
<td>3</td>
</tr>
<tr>
<td>SAF: 100</td>
<td>Safety Program Organization and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Administration*</td>
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III. Area of Concentration 31 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ESC: 100</td>
<td>Engineering Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 101</td>
<td>Scientific Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 200</td>
<td>Engineering Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ESC: 203</td>
<td>Engineering Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>MTH: 220</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MTH: 230</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
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<tr>
<td>MTH: 240</td>
<td>Differential Equations</td>
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<tr>
<td>PHY: 223</td>
<td>Engineering Physics II</td>
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IV. Engineering Electives 3-4 credits

Choose one course from the following list based on the engineering field to be pursued, and the recommendation of the college to which transfer is expected.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC: 201</td>
<td>Engineering Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ESC: 204</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 205</td>
<td>Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 207</td>
<td>Engineering Thermodynamics (or)</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 202</td>
<td>Thermal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ME: 151</td>
<td>Manufacturing Processes I</td>
<td>3</td>
</tr>
<tr>
<td>ME: 249</td>
<td>Materials and Metallurgy*</td>
<td>3</td>
</tr>
<tr>
<td>CE: 240</td>
<td>Plane Surveying*</td>
<td>3</td>
</tr>
<tr>
<td>CE: 243</td>
<td>Introduction to Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>QC: 100</td>
<td>Introduction to Quality Control*</td>
<td>3</td>
</tr>
<tr>
<td>SAF: 100</td>
<td>Safety Program Organization and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Administration*</td>
<td></td>
</tr>
</tbody>
</table>

V. Technical & General Education Electives 6-7 credits

Completion of the AS degree in Engineering Science requires an additional six to seven credit hours selected from any of the courses listed in the following three areas. Elective courses should be selected based on the engineering field to be pursued, and the recommendation of the college to which transfer is expected.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC: 100</td>
<td>Engineering Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 201</td>
<td>Engineering Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ESC: 204</td>
<td>Engineering Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 205</td>
<td>Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 206</td>
<td>Strength of Materials Lab</td>
<td>1</td>
</tr>
<tr>
<td>ESC: 207</td>
<td>Engineering Thermodynamics (or)</td>
<td>3</td>
</tr>
<tr>
<td>ESC: 202</td>
<td>Thermal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ME: 151</td>
<td>Manufacturing Processes I</td>
<td>3</td>
</tr>
<tr>
<td>ME: 249</td>
<td>Materials and Metallurgy*</td>
<td>3</td>
</tr>
<tr>
<td>CE: 240</td>
<td>Plane Surveying*</td>
<td>3</td>
</tr>
<tr>
<td>CE: 243</td>
<td>Introduction to Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>QC: 100</td>
<td>Introduction to Quality Control*</td>
<td>3</td>
</tr>
<tr>
<td>SAF: 100</td>
<td>Safety Program Organization and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Administration*</td>
<td></td>
</tr>
</tbody>
</table>

Science & Mathematics Electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO: 117</td>
<td>Conservation and Ecology*</td>
<td>3</td>
</tr>
<tr>
<td>CHM: 106</td>
<td>General Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>CHM: 201</td>
<td>Quantitative Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHM: 204</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHM: 206</td>
<td>Organic Chemistry Lecture I (and)</td>
<td>3</td>
</tr>
<tr>
<td>CHM: 210</td>
<td>Organic Chemistry Lab I</td>
<td>2</td>
</tr>
<tr>
<td>CHM: 207</td>
<td>Organic Chemistry Lecture II (and)</td>
<td>3</td>
</tr>
<tr>
<td>CHM: 211</td>
<td>Organic Chemistry Lab II</td>
<td>2</td>
</tr>
<tr>
<td>GEO: 111</td>
<td>Physical Geology*</td>
<td>5</td>
</tr>
<tr>
<td>MTH: 215</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHY: 224</td>
<td>Engineering Physics III</td>
<td>3</td>
</tr>
</tbody>
</table>

* Check with institution to which transfer is expected to determine course acceptability
Recommended General Education Electives**:

- ANT:103 Cultural Variations
- ART:133 Graphic Design I
- ECO:151 Principles of Macroeconomics
- HST:119 The Modern World
- HUM:112 Creative Thinking
- PHL:111 Environmental Ethics
- PSC:201 International Relations
- PSY:200 General Psychology
- PSY:206 Introduction to Social Psychology
- PSY:217 Cross-Cultural Psychology
- SOC:101 Introduction to Sociology
- SOC:202 American Social Problems and Issues

** Substitutions may be made with permission from the Engineering and Technology Department.

Program total .................. 69-71

Technology Education

ASSOCIATE IN SCIENCE DEGREE

Florissant Valley

This program will utilize the resources of Southeast Missouri State (SEMO), University of Missouri-St. Louis (UMSL), and St. Louis Community College (SLCC) to deliver industrial technology teacher education program for the citizens of St. Louis. Students will first complete the proposed (78 credit hours) AS degree program in Technology Education at St. Louis Community College. The University of Missouri-St. Louis and Southeast Missouri State University will work cooperatively to offer 62 credit hours of the 3rd and 4th year courses of the SUMO BSE degree in Industrial Education program in St. Louis. Students will transfer to the BSE program after they have completed the SLCC’s AS degree Technology Education program. All credits from the program will be accepted towards SUMO BSE degree in Industrial Education.

I. General Education 26 credits

- ENG:101 College Composition I .................. 3
- ENG:103 Report Writing .................. 3
- ENG:201 Introduction to Fiction or
- ENG:202 Introduction to Poetry and Plays .................. 3
- PSY:200 General Psychology .................. 3
- MTH:144 Technical Algebra and Trigonometry .................. 5
- XXX:xxx Missouri State Requirement .................. 3
- PHL:101 Introduction to Philosophy .................. 3

Select one course from: .................. 3

- CHM:101 Fundamentals of Chemistry I
- CHM:105 General Chemistry I
- GEO:100 Earth Science
- GEO:111 Physical Geology
- PSI:101 Physical Science Lecture I
- PSI:105 Physical Science I
- PSI:111 Introduction to Astronomy I
- PSI:124 Principles of Physical Science
- PHY:111 College Physics I
- PHY:122 Engineering Physics I

II. Physical Education Requirement 2 credits

III. Professional Education 9 credits

- EDU:200 Introduction to Classroom Teaching .......... 3
- EDU:211 Foundations of Education .......... 3
- PSY:214 Adolescence and Education .......... 3

Select: 6 hrs.

- EGR:140 Computer Aided Drafting and Design I ........ 3
- EGR:255 Advanced Computer Aided Drafting ........ 3
- ART:165 Photography I ........ 3
- ART:271 Desktop Publishing ........ 2

IV. Engineering Technology Education 41 credits

Communications Technology 12 credits

Required: 6 hrs.

- EGR:100 Engineering Drawing ........ 3
- ART:133 Graphic Design I ........ 3

Select: 6 hrs.

- EGR:140 Computer Aided Drafting and Design I ........ 3
- EGR:255 Advanced Computer Aided Drafting ........ 3
- ART:165 Photography I ........ 3
- ART:271 Desktop Publishing ........ 2

Energy and Power Technology 14 credits

Required: 8 hrs.

- EE:130 Electric Circuits I ........ 4
- EE:131 Electric Circuits II ........ 4

Select: 6 hrs.

- EE:132 Electronic Devices ........ 5
- EE:241 Transmission and Distribution of Power ........ 3
- ME:223 Basic Hydraulics I ........ 2
- ME:255 Fluid Power ........ 3

Materials & Processes Technology 15 credits

Required: 9 hrs.

- ME:249 Materials and Metallurgy ........ 3
- ME:151 Manufacturing Processes I ........ 3
- ME:152 Manufacturing Processes II ........ 3

Select: 6 hrs.

- CE:108 Construction Methods ........ 3
- ME:241 Numerical Control Programming ........ 3
- ME:140 Introduction to Robotics ........ 3

Program total .................. 78 credits

ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAM

St. Louis Community College offers numerous career/vocational programs for students entering the job market for the first time, changing jobs or careers or upgrading skills. Three levels of programs are offered: the associate in applied science degree, the certificate of proficiency and the certificate of specialization.

The associate in applied science degree program helps students develop practical and theoretical skills that prepare them for entry-level jobs. These programs can be completed in two years of full-time attendance. However, most students take courses on a part-time basis and take longer
to complete their programs. Many courses are offered both day and evening. All associate in applied science graduates must have coursework in the following areas:

**Humanities and Communications** 6 credit hours
Select from Art, College Composition, English Literature and Culture, Foreign Language and Cultures, Humanities, Media, Music, Philosophy, Reading, Speech and Theatre.

**Natural Science and Mathematics** 6 credit hours
Select from Astronomy, Biology, Chemistry, Geology, Physical Geography, Physical Science, Physics and Mathematics.

**Social Science** 6 credit hours
Select from Anthropology, Economics, Geography (except physical), History, Political Science, Psychology and Sociology.

**Physical Education** 2 credit hours
Select from activity courses.

For the remaining hours required for the degree, you may choose general electives or courses that fit a specific major.

**CERTIFICATE PROGRAMS**

The certificate of proficiency is designed primarily for persons whose intended job does not require an associate degree. It is also suitable for persons who wish additional information and skills in a particular area. Certificates of proficiency usually require one year of full-time attendance to complete. If courses are taken on a part-time basis, however, it will take longer to complete a program.

The certificate of specialization is designed primarily for persons who want information and skills in a specific area, often related to a current job. This certificate may allow students to qualify for promotion, obtain certification, or increase future employment opportunities. Certificates of specialization usually require 18 semester hours of work and can be completed on a full- or part-time basis.

**Accounting**

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

Florissant Valley, Forest Park and Meramec

The degree is designed to provide students with a skill and knowledge background that will enhance an entry into the accounting job market. It is tailored to provide students with a comprehensive foundation in accounting and hands-on experience with computers using commercial accounting software.

Persons planning a career in accounting should have a proficiency in mathematics and be able to analyze, compare and interpret facts and figures quickly. Accuracy and the ability to handle responsibility with limited supervision are important. Courses in computer applications and work experience in the business area are extremely beneficial.

<table>
<thead>
<tr>
<th>I. Career General Education</th>
<th>21 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:100 Career English (or)</td>
<td></td>
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<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:103 Report Writing (or)</td>
<td></td>
</tr>
<tr>
<td>ENG:102 College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ECO:151 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECO:152 Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MTH:xxx Mathematics (140 level or higher)</td>
<td>3</td>
</tr>
<tr>
<td>BUS:103 Business Mathematics (counts as 3 hours of the math requirement)</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx Missouri State Requirement</td>
<td>3</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>II. Physical Education Activity</th>
<th>2 credits</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>III. Area of Concentration</th>
<th>22 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:100 Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC:110 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC:114 Managerial Accounting</td>
<td></td>
</tr>
<tr>
<td>ACC:208 Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACC:213 Survey of Business Taxes</td>
<td>3</td>
</tr>
<tr>
<td>BLW:101 Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV. Technology Core Courses</th>
<th>9 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:120 Computer Accounting Applications for Business</td>
<td>3</td>
</tr>
<tr>
<td>ACC:122 Computer Accounting Applications - Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>ACC:124 Computer Accounting Applications - Database</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V. Area of Concentration</th>
<th>6 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete one of the options listed below.</td>
<td></td>
</tr>
</tbody>
</table>

**Accounting Associate Option:**

Accounting electives

**Tax Emphasis Option:**

Approved tax electives

<table>
<thead>
<tr>
<th>VI. Business Electives</th>
<th>6 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select two from the following:</td>
<td></td>
</tr>
<tr>
<td>ACC:xxx</td>
<td></td>
</tr>
<tr>
<td>IS:xxx</td>
<td></td>
</tr>
<tr>
<td>MGT:xxx or MKT:xxx</td>
<td></td>
</tr>
<tr>
<td>FIN:xxx</td>
<td></td>
</tr>
<tr>
<td>BUS:201</td>
<td></td>
</tr>
</tbody>
</table>

**Program total** 66 credits
CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park and Meramec
The accountant’s role has changed dramatically with the
dominate role of computers. This program is designed to
provide students with knowledge and skills to meet the
changing needs required in today’s job market. A strong
foundation in accounting with commercial computer
application represents the proficiencies emphasized in this
fast-track program. This certificate provides currently
employed persons the opportunity to acquire an extensive
accounting background; provides necessary skills and
proficiencies to attain employment in the accounting field.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS:103 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>ACC:100 Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC:110 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC:114 Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC:208 Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACC:213 Survey of Business Taxes</td>
<td>3</td>
</tr>
<tr>
<td>BLW:101 Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>ACC:120 Computer Accounting Applications for Business</td>
<td>3</td>
</tr>
<tr>
<td>ACC:122 Computer Accounting Applications - Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>ACC:124 Computer Accounting Applications - Database</td>
<td>3</td>
</tr>
<tr>
<td>ACC:xxx Accounting Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Business Electives 3 credits
Select from:
ACC:xxx
IS:xxx
BUS:xxx
FIN:xxx

Program total 37 credits

Computer Accounting Technology

CERTIFICATE OF SPECIALIZATION
Florissant Valley, Forest Park and Meramec
This fast-track certificate is designed for accounting students
on the fast-track to the job market or practicing accountants
who want to update technology skills.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:110 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACC:120 Computer Accounting Applications for Business</td>
<td>3</td>
</tr>
<tr>
<td>ACC:122 Computer Accounting Applications - Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>ACC:124 Computer Accounting Applications - Databases</td>
<td>3</td>
</tr>
<tr>
<td>ACC:xxx Accounting Elective(s) (Cannot be ACC:100)</td>
<td>3</td>
</tr>
<tr>
<td>IS:xxx Information System Elective(s)</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total 16 credits

Addictions Study

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park and Meramec
This program provides academic preparation for persons work-
ing or preparing to work in the field of alcohol and drug abuse
treatment. It will look at commonalities of the various addiction
and treatment modalities.

Courses 21 credits
HMS:100 Introduction to Human Services . . . . . . . . . 3
HMS:101 Human Services: Theories and Skills (or) . . . . . 3
HMS:205 Crisis Intervention . . . . . . . . . . . . . . . . . 3
HMS:111 Group Practice in Human Services . . . . . . . . 3
HMS:201 Human Services Practicum I . . . . . . . . . . . 3
HMS:203 Human Services Practicum Seminar I . . . . . . 3
SOC:126 Study of Psychodynamic Substances . . . . . . . 3
SOC:211 Alcoholism and Drug Abuse . . . . . . . . . . . 3

Electives 3 credits
Select one course from the following:
PSY:200 General Psychology
PSY:205 Human Growth and Development
PSY:208 Abnormal Psychology
SOC:204 Marriage and the Family
or other approved elective

Program total 24 credits

African-American Studies

CERTIFICATE OF SPECIALIZATION
Forest Park
This program is designed for students interested in a broad-
based education and in enhancing their knowledge, under-
standing and capabilities for functioning effectively in a
multi-racial society. Although the program is geared to
students planning to transfer to four-year colleges, students
in career programs will find the insight gained through
these courses valuable. All students are urged to take at
least one course in African-American Studies.

Courses 18 credits
HUM:106 Black Humanities . . . . . . . . . . . . . . . . . 3
PHL:105 Black Philosophy (or) . . . . . . . . . . . . . . . 3
ENG:217 Major Black Writers* . . . . . . . . . . . . . . . 3
PSY:200 General Psychology (Black Emphasis) . . . . . . 3
HST:137 African-American History I (or) . . . . . . . . . 3
HST:138 African-American History II* . . . . . . . . . . 3
SOC:101 Introduction to Sociology (Black Emphasis) . . . 3
XXX:xxx African-American Studies approved elective . . . 3
Electives
* Required courses not selected may be taken as an elective course or any of the following courses:

**ART:104** Major Black Artists .................3
**ECO:103** Economics of the Black Experience ........3
**HUM:209** Blacks and the World of Cinema ........3
**PHL:106** Black Religion ..........................3
**PSC:106** Blacks and the American Political Process ........3
**PSC:204** Politics of African Nations ..............3

Program total ..........................18 credits

Architectural Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE

Meramec

This program prepares students for support positions in the architectural profession. Drafting and presentation skills are emphasized; however, detailing, design and project programming also are major concerns.

A variety of courses is offered from specification writing to rendering, to computer-aided drafting in an effort to expose students to the range of possibilities and knowledge necessary in this field.

The ability to visualize, draft and sketch is necessary. With patience and hard work most students are able to acquire these skills, but it must be understood that more outside time will be required for a student lacking in these areas.

Graduates are qualified for positions as drafters and junior designers in architectural firms.

This program is currently in the process of revision. See the program coordinator or an academic advisor for more information.

I. Career General Education 18-19 credits

**ENG:100** Career English (or)
**ENG:101** College Composition I .................3
**ENG:103** Report Writing (or)
**COM:101** Oral Communication I .................3
**XXX:xxx** Missouri State Requirement ..............3
**SOC:103** Human Behavior at Work and in Business (or)
**MTH:124** Technical Mathematics (or)
**MTH:140** Intermediate Algebra ..........3
**Selection from Biology, Chemistry, Geology, Math (100+ level), Physical Geology, Physical Science, or Physics** ........3-4

II. Physical Education Activity 2 credits

III. Area of Concentration 40 credits

**ARC:110** Architectural Graphics .................3
**ARC:112** Architectural Design and Production I ........3
**ARC:114** Architectural History and Theory ........3
**ARC:115** Architectural Rendering and Presentation ............3
**ARC:123** Introduction to Computer Aided Architectural Drafting ........3
**ARC:209** Mechanical and Electrical Systems I ........3
**ARC:211** Architectural Design and Production II ........3
**ARC:219** Professional Practice ....................2
**ARC:220** Architectural Design and Production III ........3
**ARC:222** Site Planning and Landscape Drafting ........3
**ART:107** Design I ................................2
**ART:109** Drawing I ................................3
**ARC:229** Architectural Specifications, Materials and Methods ........3
**CE:117** Statics and Strengths of Materials .............3

Program total .........................64 credits

IV. Electives 3-4 credits

**ARC:223** Intermediate Computer-Aided Architectural Drafting ........3
**ARC:224** Advanced Computer-Aided Drafting ........3
**ARC:227** Architectural Estimating .................3
**ARC:228** Architectural Computer Rendering, Modeling and Animation ........3
**CE:241** Structural Systems I .....................4

Program total .........................64 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or electives, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

Automotive Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE

Forest Park

This program prepares students for entry-level positions in the automotive industry at beginning supervisory and managerial levels. Students are trained in every aspect of the mechanical parts of a car; however, auto body repair training is not offered.

The program begins during the fall semester only. Part-time or full-time attendance is possible.

Persons interested in this program should be able to work well with people, be capable of assuming responsibility and be able to work without supervision. They should have a strong math and reading background and be mechanically inclined with a high level of manual dexterity and eye/hand coordination.

Graduates of the AAS program are qualified for positions as mechanics and diagnostic technicians at automobile dealerships, independent garages and repair shops, discount stores, tire centers and service centers. Certificate graduates qualify for many entry level positions.

I. Career General Education 19 credits

**ENG:101** College Composition I .................3
**COM:101** Oral Communication I .................3
**MTH:124** Technical Mathematics I .................3
**PSL:124** Principles of Physical Science ............4
**XXX:xxx** Missouri State Requirement ............3
**Psychology or Sociology Elective** ...............3
II. Physical Education Activity  2 credits

III. Area of Concentration  47 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:100</td>
<td>Applied Accounting (or)</td>
<td>.3</td>
</tr>
<tr>
<td>BUS:104</td>
<td>Introduction to Business Administration</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:150</td>
<td>Automotive Fuel and Induction Systems</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:151</td>
<td>Automotive Engine Operation</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:156</td>
<td>Automotive Electricity</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:158</td>
<td>Charts, Diagrams, and Handbook Usage</td>
<td>.2</td>
</tr>
<tr>
<td>AUT:167</td>
<td>Automotive Electronics</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:168</td>
<td>Suspension and Steering I</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:169</td>
<td>Suspension and Steering II</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:256</td>
<td>Automotive Powertrains</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:271</td>
<td>Diagnostic Equipment and Emissions</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:272</td>
<td>Accessories, Controls, and Air Conditioning</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:273</td>
<td>Automatic Transmissions and Transaxles</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:281</td>
<td>Automotive Field Work I</td>
<td>.5</td>
</tr>
<tr>
<td>AUT:282</td>
<td>Automotive Field Work II</td>
<td>.5</td>
</tr>
<tr>
<td>AUT:291</td>
<td>Automotive Service Management</td>
<td>.2</td>
</tr>
</tbody>
</table>

Program total ................. 47 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

CERTIFICATE OF PROFICIENCY
Forest Park
Building on the skills developed in the certificate of specialization, this program prepares the graduate to perform more complicated repair and maintenance tasks on automobiles.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT:150</td>
<td>Automotive Fuel and Induction Systems</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:151</td>
<td>Automotive Engine Operation</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:156</td>
<td>Automotive Electricity</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:158</td>
<td>Charts, Diagrams, and Handbook Usage</td>
<td>.2</td>
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<tr>
<td>AUT:167</td>
<td>Automotive Electronics</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:168</td>
<td>Suspension and Steering I</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:169</td>
<td>Suspension and Steering II</td>
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<tr>
<td>AUT:256</td>
<td>Automotive Powertrains</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:271</td>
<td>Diagnostic Equipment and Emissions</td>
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<tr>
<td>AUT:272</td>
<td>Accessories, Controls, and Air Conditioning</td>
<td>.3</td>
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<tr>
<td>AUT:273</td>
<td>Automatic Transmissions and Transaxles</td>
<td>.3</td>
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<tr>
<td>AUT:281</td>
<td>Automotive Field Work I</td>
<td>.5</td>
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<tr>
<td>AUT:282</td>
<td>Automotive Field Work II</td>
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<tr>
<td>AUT:291</td>
<td>Automotive Service Management</td>
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</table>

Program total ................. 68 credits

Automotive Technology: Ford Asset Option
ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park
The Ford ASSET (Automotive Student Service Educational Training) program is an alliance among Ford Motor Company, Ford, Lincoln-Mercury, and Mazda dealers, and St. Louis Community College. The program is a career program that trains students to become entry-level automotive service technicians at Ford, Lincoln-Mercury and Mazda Dealerships. Students get on-the-job training at a sponsoring dealership while earning an Associate in Applied Science Degree in Automotive Technology. Enrollment is restricted by dealer selection. For information contact the Ford ASSET Coordinator.

I. Career General Education  18 credits

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<td>ENG:101</td>
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<td>COM:101</td>
<td>Oral Communication I (or)</td>
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<td>PSI:101</td>
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II. Area of Concentration  63 credits

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<td>BUS:104</td>
<td>Introduction to Business Administration</td>
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</tr>
<tr>
<td>AUT:150</td>
<td>Automotive Fuel and Induction Systems</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:151</td>
<td>Automotive Engine Operation</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:156</td>
<td>Automotive Electricity</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:163</td>
<td>Cooperative Work Experience I</td>
<td>.7</td>
</tr>
<tr>
<td>AUT:164</td>
<td>Cooperative Work Experience II</td>
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<tr>
<td>AUT:165</td>
<td>Cooperative Work Experience III</td>
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</tr>
<tr>
<td>AUT:166</td>
<td>Cooperative Work Experience IV</td>
<td>.7</td>
</tr>
<tr>
<td>AUT:167</td>
<td>Automotive Electronics</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:168</td>
<td>Suspension and Steering I</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:169</td>
<td>Suspension and Steering II</td>
<td>.3</td>
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</tbody>
</table>

Program total ................. 81 credits

CERTIFICATE OF SPECIALIZATION
Forest Park
Concentrating on development of skills, this certificate prepares the graduate to perform basic repairs and routine maintenance on automobiles and to use the necessary tools.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT:150</td>
<td>Automotive Fuel and Induction Systems</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:151</td>
<td>Automotive Engine Operation</td>
<td>.3</td>
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<tr>
<td>AUT:156</td>
<td>Automotive Electricity</td>
<td>.3</td>
</tr>
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<td>AUT:168</td>
<td>Suspension and Steering I</td>
<td>.3</td>
</tr>
<tr>
<td>AUT:169</td>
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<td>.3</td>
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Elective
ENG:101 College Composition I (or) .3
MTH:124 Technical Mathematics I (or) .3
COM:101 Oral Communication I .3

Program total ................. 18 credits
Banking and Finance

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley, Forest Park and Meramec

This program, offered in conjunction with the St. Louis Chapter of the Center for Financial Training, prepares students for entry-level positions in financial institutions and provides additional education in banking management to current bank employees. Current bank employees can earn college credit while taking specialized banking courses that can increase opportunities for promotion. Students receive basic knowledge and skill in accounting, banking law, banking credit management, bank marketing and the money and banking system of the United States.

Because good customer relations are vital to the financial service industry, students interested in the program should be highly service-oriented and interested in working with people. Potential students also should be industrious and trustworthy. Previous business and banking experience is helpful.

Graduates of the program are qualified for positions as clerks, tellers and management trainees. These positions can be found in departments such as installment loans, data processing, personnel, credit service, commercial loans and auditing in banks, thrifts or credit unions.

Students may obtain information through the College Admissions office, Counseling, the Business Administration department or through the C.F.T.

Banking Option

I. Career General Education 27-28 credits
COM:101 Oral Communication I .......................... 3
ENG:101 College Composition I .......................... 3
ENG:102 College Composition II .......................... 3
ECO:151 Principles of Macroeconomics .......................... 3
ECO:152 Principles of Microeconomics .......................... 3
XXX: xxx Missouri State Requirement .......................... 3
XXX: xxx Social Science Option .......................... 3
MTH:xxx MTH:100 or higher .......................... 3
MTH:xxx Math/science elective .......................... 3-4

II. Physical Education Activity 2 credits

III. Area of Concentration 35 credits

Banking and Finance Core Courses 15 credits
ACC:110 Financial Accounting I .......................... 4
BUS:104 Introduction to Business Administration .......................... 3
BUS:115 Principles of Banking* .......................... 3
ECO:215 Money and Banking* .......................... 3
IS:116 Microcomputer Literacy .......................... 3

Banking Option (required courses) 7-8 credits
MGT:222 Consumer Lending* .......................... 2
FIN:100 Personal Finance .......................... 3
MKT:203 Principles of Marketing (or) .......................... 3
MKT:215 Marketing Financial Services* .......................... 2-3

Choose 4 - 5 courses 12 credits
ACC:114 Managerial Accounting .......................... 3
B LW:101 Business Law I (or) .......................... 3
MGT:220 Law and Banking: Principles* .......................... 2-3
B LW:102 Business Law II (or) .......................... 3
B LW:216 Law and Banking: Applications* .......................... 2-3
BUS:216 Analyzing Financial Statements* .......................... 3
MGT:204 Business Organization and Management .......................... 3

Program total 83 credits

Finance Option

I. Career General Education: 27-28 credits
COM:101 Oral Communication I .......................... 3
ENG:101 College Composition I .......................... 3
ENG:102 College Composition II .......................... 3
ECO:151 Principles of Macroeconomics .......................... 3
ECO:152 Principles of Microeconomics .......................... 3
XXX:xxx Missouri State Requirement .......................... 3
XXX:xxx Social Science option .......................... 3
MTH:xxx MTH:100 or higher .......................... 3
XXX:xxx Math/Science elective .......................... 3-4

II. Physical Education Activity 2 credits

III. Area of Concentration 35 credits

Banking and Finance Core Courses 15 credits
ACC:110 Financial Accounting I .......................... 4
BUS:104 Introduction to Business Administration .......................... 3
BUS:115 Principles of Banking* .......................... 3
ECO:215 Money and Banking* .......................... 3
IS:116 Microcomputer Literacy .......................... 3

Finance Option (required courses) 8 credits
MGT:221 Commercial Lending* .......................... 2
FIN:201 Principles of Finance .......................... 3
FIN:101 Introduction to Investments .......................... 3

Choose 4-5 courses 12 credits
ACC:114 Managerial Accounting .......................... 3
B LW:101 Business Law I (or) .......................... 3
MGT:220 Law and Banking Principles* .......................... 2-3
B LW:102 Business Law II (or) .......................... 3
B LW:216 Law and Banking: Applications* .......................... 2-3
BUS:216 Analyzing Financial Statements* .......................... 3
MGT:204 Business Organization and Management .......................... 3

Program total 64-65 credits
Biomedical Engineering Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley

This program prepares students to service various types of medical equipment in hospitals. Students learn to repair, maintain, calibrate and adapt many kinds of electronic apparatus and instruments, monitoring devices and electrical medical equipment. These skills are taught in the College’s engineering technology laboratories and at area hospitals.

Persons interested in the program should have a good math and science background as well as high level of eye/hand coordination and the ability to manipulate small objects.

Graduates are qualified for biomedical engineering technician positions at hospitals, clinics, research laboratories, manufacturing plants and service companies.

I. Career General Education 28 credits
ENGL:101 College Composition I 3
ENGL:102 College Composition II or 3
BIO:101 Clinical Physiology 3
MATH:144 Technical Algebra and Trigonometry 5
MATH:154 Technical Analytic Geometry and Calculus 4
PHYS:111 College Physics I 4
XXX:xxx Missouri State Requirement 3
XXX:xxx Sociology or Psychology Elective 3

II. Physical Education Activity 2 credits

III. Area of Concentration 43 credits
BE:150 Biomedical Electrical Safety 2
BE:153 Biomedical Internship 3
BE:251 Biomedical Electronics 5
BE:254 Biomedical Applications 5
EE:130 Electronic Circuits I 4
EE:131 Electronic Circuits II 4
EE:132 Electronic Devices 5
EE:233 Digital Logic 4
EE:242 Introduction to Microprocessors 3
EE:260 Electronic Project Design and Fabrication 3
EGR:104 Electronic Drafting 2
GE:101 Technical Computer Programming 3

Program total 73 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

Biotechnology

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley

The biotechnology associate in applied science degree allows the student to earn an associate degree while gaining basic laboratory skills and experience required in biotechnology research and industry, permitting immediate employability in the field as entry-level lab technicians.

Fundamentals of Chemistry or high school chemistry with a grade of A or B within the past three years is required for entry into this program.

I. Career General Education 19 credits
ENGL:101 College Composition I 3
ENGL:102 College Composition II or 3
ENGL:103 Report Writing 3
MATH:160 College Algebra 4
COMM:101 Oral Communication I 3
XXX:xxx Missouri State Requirement 3
XXX:xxx Social Science Elective 3

II. Physical Education 2 credits

III. Area of Concentration 45-47 credits
BIO:104 Basic Laboratory Methods 3
BIO:111 Introductory Biology I (or) 3
BIO:140 Principles of Biology I 4
CHM:105 General Chemistry I 5
CHM:106 General Chemistry II 5
CHM:206 Organic Chemistry Lecture I (and) 5
CHM:210 Organic Chemistry Lab I (or) 5
BIO:222 Specialized Topics in Biotechnology 5
CHM:207 Organic Chemistry Lecture II (and) 5
CHM:211 Organic Chemistry Lab II (or) 5
BIO:211 Biotechnology Internship 3-5
BIO:218 Microbiology for Biotechnology 4
BIO:219 Biotechnology I 5
BIO:220 Biotechnology II 5
PHL:109 Bio-Medical Ethics 3
GE:101 Technical Computer Programming (or) 3
IS:116 Microcomputer Literacy 3

IV. Electives 3-6 credits
HRT:103 Plant Propagation 3
BIO:124 General Botany 4
BIO:221 Biotechnology Internship 3
BIO:222 Specialized Topics in Biotechnology 5
BIO:224 Introduction to Bioinfomatics 2
DIT:108 Food Preparation and Science Lecture 3
Broadcast Engineering

CERTIFICATE OF SPECIALIZATION
Florissant Valley

This program prepares students to operate and maintain equipment at radio and television stations and production facilities. Through courses in electronics and production and hands-on training at local television stations and production facilities, students learn to run audio boards, cameras, edit video tape, create special effects and titles and maintain transmitters and antenna systems that keep stations on the air.

Persons interested in this program should have a strong technical background, good manual dexterity, an aptitude for working with clerical and mechanical systems and an ability to work under pressure.

Graduates are qualified for positions as broadcast engineers, camera operators, editors, switchers, master control operators and maintenance engineers.

Analog Maintenance Option

Courses Credits
EE:130 Electric Circuits I ...... 4
EE:132 Electronic Devices ...... 5
EE:234 Applied Electronics ...... 5
EE:235 Electronic Communications ...... 4

Program total .......... 18 credits

Digital Maintenance Option

Courses Credits
EE:101 Technical Electricity ...... 5
EE:233 Digital Logic ...... 4
EE:242 Introduction to Microprocessors ...... 3
EE:244 Microprocessor Applications ...... 3
GE:101 Technical Computer Programming ...... 3

Program total .......... 18 credits

Production Option

Courses Credits
EE:101 Technical Electricity ...... 5
MCM:121 Television Production ...... 3
MCM:201 Media Internship I ...... 3
MCM:213 Advanced Video Production ...... 3
MCM:511 Broadcast Engineering Practicum ...... 3

Program total .......... 17-18 credits

Building Inspection and Code Enforcement Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park

This program provides in-service training for current building inspectors and code enforcement officials and prepares students for entry-level employment. Students will learn to approve architectural plans and specifications, award work permits and to inspect new construction as it progresses. They will become knowledgeable in inspection techniques, soils, architectural materials, plumbing and electrical systems, heating and ventilation systems and municipal fire safety regulations.

Persons interested in this program should be mechanically inclined, honest, able to work with and pursue small details, able to read and interpret technical documents and construction drawings and specifications.

Graduates are qualified for positions as building inspectors and code enforcement officials with municipal governments, national and state agencies and private firms.

I. Career General Education 24 credits

ENG:101 English Composition I ...... 3
ENG:103 Report Writing ...... 3
COM:101 Oral Communication I ...... 3
CHM:114 Industrial Chemistry ...... 3
MTH:124 Technical Mathematics I ...... 3
PSI:101 Principles of Physical Science Lecture ...... 3
XXX:xxx Missouri State Requirement ...... 3
SOC:101 Introduction to Sociology ...... 3

II. Physical Education Activity 2 credits

BIC:101 Basic Building Inspection Techniques ...... 3
BIC:103 Building Codes and Ordinances ...... 3
BIC:200 Plumbing and Mechanical Inspection ...... 4
BIC:201 Electrical Inspection ...... 2
BIC:202 Administration of Building Regulations ...... 3
BIC:203 Plan Review I (Non-structural) ...... 3
BIC:204 Plan Review II (Structural) ...... 3
BIC:205 Soils, Grading and Waste Water Control ...... 3
CE:116 Construction Blueprint Reading ...... 3
FIR:105 Inspection and Fire Prevention ...... 3
FIR:210 Architectural Structural Representation-Materials ...... 3
ME:135 Mechanics-Statics ...... 3
ME:243 Strength of Materials ...... 3
MGT:204 Business Organization and Management ...... 3

Program total .......... 68 credits

CERTIFICATE OF PROFICIENCY
Forest Park

This program provides in-service training for current building inspectors and code enforcement officials and prepares students for entry-level employment. Students will learn to approve architectural plans and specifications, award work permits and to inspect new construction as it progresses.
permits and to inspect new construction as it progresses. They will become knowledgeable in inspection techniques, soils, architectural materials, plumbing and electrical systems, heating and ventilation systems and municipal fire safety regulations.

Persons interested in this program should be mechanically inclined, honest, able to work with and pursue small details, able to read and interpret technical documents and construction drawings and specifications.

Courses Credits
XXX:xxx Building Inspection, or Fire Protection, or Mechanical Engineering electives from AAS degrees ........................................... 23
XXX:xxx Approved electives from AAS degree ............................ 9

Program total .................. 32 Credits

Housing Inspection Option
CERTIFICATE OF PROFICIENCY

Forest Park
This program provides training for individuals seeking positions in municipal government and private firms. In general, the housing inspector performs inspections on existing homes to insure they meet local and national codes.

Persons interested in this program should be mechanically inclined, honest, able to work with and pursue small details, and able to read and interpret technical documents and construction drawings and specifications.

Courses Credits
BIC:101 Basic Building Inspection Techniques .................. 3
BIC:102 Housing Inspection and Programs ...................... 3
BIC:103 Building Codes and Ordinances ......................... 3
BIC:104 Housing Inspection Problems ......................... 3
BIC:200 Plumbing and Mechanical Inspection .................. 4
BIC:201 Electrical Inspection .................................... 2
COM:101 Oral Communication ....................................... 3
ENG:101 College Composition I .................................. 3
FIR:105 Inspection and Fire Prevention .......................... 3
FIR:210 Architectural Structural Representation—Materials ....... 3
SOC:101 Introduction to Sociology ................................ 3

Program total .................. 33 credits

Business Administration
CERTIFICATE OF PROFICIENCY

Florissant Valley, Forest Park and Meramec
This flexible program is designed to address the educational and occupational needs of several groups of people in the business field. Persons presently employed in business-related areas can upgrade their skills and competencies. People presently employed who do not have business degrees can enhance their business skills and competencies. They can enroll in short-term intensive training for job opportunities or they can complete specific undergraduate requirements toward an advanced degree in business.

Students will acquire fundamental knowledge and skill in accounting, marketing, management, decision making, economics and statistics.

The ability to communicate effectively verbally and in writing is especially important for persons interested in this program.

Courses Credits
ENG:101 College Composition I .................................. 3
MTH:160 College Algebra .......................................... 4
ECO:151 Principles of Macroeconomics .......................... 3
ECO:152 Principles of Microeconomics .......................... 3
ACC:110 Financial Accounting I ................................ 4
ACC:114 Managerial Accounting ................................. 3
BUS:104 Introduction to Business Administration ............... 3

Select four courses from:
BLW:101 Business Law I (or)
BLW:201 Legal Environment of Business ....................... 3
BUS:201 Elementary Statistics (or)
BUS:202 Statistical Analysis ....................................... 3
IB:100 International Business ...................................... 3
IS:103 Information Systems for Business ....................... 3
MKT:203 Principles of Marketing ................................ 3
MGT:204 Business Organization and Management .............. 3

Program total .................. 35 credits

CERTIFICATE OF SPECIALIZATION

Florissant Valley and Forest Park
This flexible program is designed to address the career and educational needs of those currently employed in business-related areas. Designed to enhance business skills and competencies, this focused program can be used to expand job-related skills and to provide a foundation for advanced study in business.

Courses Credits
ACC:100 Applied Accounting I .................................. 3
BUS:104 Introduction to Business Administration ............... 3
IS:103 Information Systems for Business (or)
IS:xxx Approved Information Systems course .................. 3
MTH:108 Elementary Applied Mathematics (or)
MTH:xxx Approved 100 level Mathematics course (or)
BUS:103 Business Mathematics .................................. 3
MGT:204 Business Organization and Management .............. 3
MKT:203 Principles of Marketing ................................ 3

Program total .................. 18 credits
**Chemical Technology**

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

Florissant Valley

This program prepares students to work as chemical laboratory technicians with chemists, engineers, and environmentalists. Students learn the basics of wet chemical methods and acquire skills in analyzing and interpreting the results of basic chemical instrumentation.

Persons interested in this program should have an interest in math and science. They also should be able to work with people in teams.

Graduates are qualified for positions as industrial chemical technicians in chemical processing plants and environmental, agricultural, research and manufacturing facilities.

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<td>ENG:102 College Composition II (or)</td>
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<td>ENG:103 Report Writing</td>
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<tr>
<td>MTH:140 Intermediate Algebra</td>
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<td>XXX:xxx Missouri State Requirement</td>
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<td>Social Science Elective</td>
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<tr>
<th>II. Physical Education Activity</th>
<th>2 credits</th>
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<tr>
<th>III. Area of Concentration</th>
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<tbody>
<tr>
<td>CHM:101 Fundamentals of Chemistry</td>
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<tr>
<td>CHM:121 Chemical Technology I</td>
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<td>CHM:122 Chemical Technology II</td>
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<td>CHM:222 Chemical Technology IV</td>
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<td>CHM:231 Chemical Technology V</td>
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<td>CHM:232 Chemical Technology VI</td>
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<td>CHM:231 Chemical Technology Seminar</td>
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<td>CHM:214 Advanced Chemical Technology</td>
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<td>Math or Science</td>
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<td>PHY:111 College Physics I (or)</td>
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<td>BIO:203 General Microbiology</td>
<td>4</td>
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<tr>
<td>GE:101 Technical Computer Programming</td>
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<table>
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<tr>
<th>Program total</th>
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</table>

**CERTIFICATE OF PROFICIENCY**

Florissant Valley

| CHM:121 Chemical Technology I | 5 |
| CHM:122 Chemical Technology II | 5 |
| CHM:221 Chemical Technology III | 5 |
| CHM:222 Chemical Technology IV | 5 |
| CHM:231 Chemical Technology V | 5 |
| CHM:232 Chemical Technology VI | 5 |
| CHM:213 Chemical Technology Seminar | 2 |
| CHM:214 Advanced Chemical Technology | 2 |

| Program total | 34 credits |

**Civil Engineering Technology**

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

Florissant Valley

Civil engineering technicians work as part of the project team in the design and construction of roads, dams, airports, bridges, pollution control systems, water and sewage treatment plants and all types of commercial and industrial buildings. To accomplish that work, the civil technician could be involved in surveying, soil testing, preparation of drawings, basic design, construction inspection, material testing, contract administration, estimating project costs or technical sales. Many positions provide the opportunity to work out of doors.

An interest in practical problem solving and in observing a project from start to finish is important for persons employed in this field. Prior course work in algebra, geometry and drafting would be helpful. If necessary, developmental courses in those subjects are available.

Graduates are qualified for positions as civil and structural design draftsmen, survey instrument operators, construction inspectors, soils technicians and technical sales representatives.

<table>
<thead>
<tr>
<th>I. Career General Education</th>
<th>38-39 credits</th>
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<tbody>
<tr>
<td>COM:101 Oral Communication I</td>
<td>3</td>
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<tr>
<td>EGR:100 Engineering Drawing</td>
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</tr>
<tr>
<td>ENG:100 Career English (or)</td>
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<tr>
<td>ENG:101 College Composition I</td>
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<tr>
<td>ENG:103 Report Writing (or)</td>
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<td>ENG:102 College Composition II</td>
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<td>GE:101 Technical Computer Programming</td>
<td>3</td>
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<td>MTH:144 Technical Algebra and Trigonometry (or)</td>
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<td>MTH:154 Technical Analytical Geometry and Calculus (or)</td>
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<tr>
<td>MTH:210 Analytic Geometry and Calculus I</td>
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<tr>
<td>PHY:111 College Physics I</td>
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<tr>
<td>PHY:112 College Physics II</td>
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<tr>
<td>SOC:103 Human Behavior at Work and in Business</td>
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<td>XXX:xxx Missouri State Requirement</td>
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<tr>
<th>II. Physical Education Activity</th>
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</table>

<table>
<thead>
<tr>
<th>III. Area of Concentration</th>
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<tbody>
<tr>
<td>CE:103 Structural Drafting (or)</td>
<td>3</td>
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<tr>
<td>CE:104 Civil Drafting</td>
<td>3</td>
</tr>
<tr>
<td>CE:230 Construction Materials and Testing</td>
<td>3</td>
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<tr>
<td>CE:240 Plane Surveying</td>
<td>3</td>
</tr>
<tr>
<td>EGR:133 Introduction to AutoCAD I (or)</td>
<td>3</td>
</tr>
<tr>
<td>EGR:140 Computer Aided Drafting and Design I</td>
<td>3</td>
</tr>
<tr>
<td>ME:135 Mechanics-Statics</td>
<td>3</td>
</tr>
<tr>
<td>ME:243 Strength of Materials</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>IV. Electives (either group required)</th>
<th>9 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td></td>
</tr>
<tr>
<td>CE:234 Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CE:236 Reinforced Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td>CE:237 Structural Steel Design</td>
<td>3</td>
</tr>
</tbody>
</table>
Students learn to perform qualitative, quantitative and practical experience in hospital and clinical laboratories, clinical laboratory technicians. Through classroom and this program prepares students for entry-level positions as clinical laboratory technicians. Through classroom and practical experience in hospital and clinical laboratories, students learn to perform qualitative, quantitative and analytic testing in microbiology, hematology, blood banking, clinical chemistry, serology, immunology and routine analysis. Persons interested in this program should have an interest in biology, chemistry and the health sciences and be able to follow precise and detailed instructions. Graduates are eligible to take the National Certifying Registry Examination. Positions are available in hospitals, clinics, doctors’ offices, independent laboratories, and public health, research and industrial laboratories.

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

Clinical Laboratory Technology
(MEDICAL LABORATORY TECHNICIAN)
ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park
This program prepares students for entry-level positions as clinical laboratory technicians. Through classroom and practical experience in hospital and clinical laboratories, students learn to perform qualitative, quantitative and analytic testing in microbiology, hematology, blood banking, clinical chemistry, serology, immunology and routine analysis. Persons interested in this program should have an interest in biology, chemistry and the health sciences and be able to follow precise and detailed instructions. Graduates are eligible to take the National Certifying Registry Examination. Positions are available in hospitals, clinics, doctors’ offices, independent laboratories, and public health, research and industrial laboratories.

I. Career General Education 27 credits
   ENG:101 College Composition I 3
   ENG:102 College Composition II (or)
   ENG:xxx English elective 3
   BIO:102 Clinical Physiology 3
   CHM:101 Fundamentals of Chemistry I 5
   CHM:212 Bio-Organic and Analytic Chemistry 4
   MTH:124 Technical Mathematics I 3
   XXX:xxx Missouri State Requirement 3
   SOC:101 Introduction to Sociology (or)
   XXX:xxx Psychology or Sociology elective 3

II. Physical Education Activity 2 credits

III. Area of Concentration 43 credits
   CLT:100 Orientation of the Medical Laboratory 1
   CLT:101 Medical Microbiology 3
   CLT:102 Routine Analysis 2
   CLT:103 Hematology 3
   CLT:104 Pathogenic Bacteriology I 4
   CLT:105 Basic Laboratory Skills 4
   CLT:200 Pathogenic Bacteriology II 4
   CLT:201 Clinical Chemistry I 5
   CLT:202 Clinical Practice I 4
   CLT:204 Blood Bank 2
   CLT:205 Pathology-Correlation Conference 1
   CLT:206 Clinical Chemistry II 4
   CLT:207 Clinical Practice II 4
   CLT:210 Immunology and Serology 2

Program total ............ .66-68 credits

** Students who are planning to pursue a BS in Civil Engineering should take the MTH:185/MTH:210 sequence.

Commercial Photography
ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park
This program deactivated Spring 2006. New students are no longer being accepted. Students currently enrolled in this program should see the department chair or an advisor.

Computer Aided Design and Drafting (CADD)
CERTIFICATE OF SPECIALIZATION
Florissant Valley
A CAD operator is able to interpret data from multiple sources, apply traditional drafting skills, utilize operating system software, follow industrial practices and company procedures related to CAD work, and efficiently perform all related tasks to produce a final drawing.

Courses 13-14 credits
   EGR:100 Engineering Drawing 3
   EGR:110 Descriptive Geometry 3
   EGR:135 CADD Management 2
   GE:101 Technical Computer Programming 3
   XXX:xxx Elective 2-3

Choose one of the following: 6 credits
Option A
   EGR:140 Computer Aided Drafting and Design I 3
   EGR:255 Advanced Computer Aided Drafting 3

Option B
   EGR:133 Introduction to AutoCAD I 2
   EGR:141 Introduction to AutoCAD II 2
   EGR:xxx AutoCAD elective 2

Program total ............ .19-20 credits
Computer Aided Manufacturing (CAM)

CERTIFICATE OF SPECIALIZATION
Florissant Valley
This program upgrades skills of persons currently employed in numerical control programming. It provides persons currently employed in manufacturing with a specialty in numerical control programming and provides students in technical areas with specialization in a specific area of manufacturing. Students learn the basics of numerical control programming through the use of computers and computer graphics with an orientation toward fabrication and assembly of a product after the design phase is completed.

Persons interested in this program should consult a counselor at the campus to determine whether they have the necessary prerequisites needed for the program.

Graduates are qualified for positions in computer-aided-drafting, numerical control programming and/or numerical control machine operators, and related mechanical/manufacturing areas.

Courses
- GE:110 Technical Computer Programming 3
- EGR:140 Computer Aided Drafting and Design I 3
- ME:241 Numerical Control Programming 3
- ME:250 Advanced Numerical Control Programming 3

Program total ..........................18 credits

Computer Aided Publishing

CERTIFICATE OF SPECIALIZATION
Forest Park
This program combines business writing, editing, design and layout courses with desktop publishing equipment to produce finished advertising and business communications materials. It is designed for persons with some previous experience in advertising or communications who wish to enhance their skills, increase their employability and explore the technological advances in computer aided publishing.

Courses
- ART:133 Graphic Design I 3
- ART:131 Computer Art Studio 3
- AT:246 Advanced Computer Art Applications 3
- MCM:217 Publications Writing 2
- ART:135 Graphic Production I 3
- ART:245 Portfolio Design & Professional Practices 2

Electives
- Choose approved elective(s) from
  ART:241 Publication Design .....................................3
  ART:236 Typography ...........................................2
  AT:247 Broadcast Graphics ......................................2
  MCM:101 Introduction to Mass Communications ..........3
  MCM:113 Applied Journalism ....................................3
  MCM:140 Introduction to Advertising .....................3
  MCM:141 Public Relations .....................................3

Program total ..........................18-19 credits

Other Art or Mass Communications courses may also substitute for the elective with the department’s permission.

Computer Engineering Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley
This program prepares students to function as repairers of computers and associated equipment. Through classroom work and practical experience in technical laboratories, students learn the basic operating principles of the hardware and software aspects of computer operation.

Persons interested in the program should be mechanically inclined and be able to follow detailed instructions. Prior course work in programming and math is beneficial.

Graduates are qualified for a variety of positions in computer-based organizations such as sales, manufacturing, systems installation and maintenance.

I. Career General Education 29 credits
- GE:131 Engineering Technology Orientation .....................1
- ENG:101 College Composition I ................................3
- ENG:102 College Composition II (or) ............................3
- ENG:103 Report Writing ........................................3
- GE:101 Technical Computer Programming ......................3
- MTH:144 Technical Algebra and Trigonometry ...............5
- MTH:154 Technical Analytical Geometry and Calculus ..........4
- PHY:111 College Physics I .....................................4
- XXX:xxx Missouri State Requirement .........................3
- XXX:xxx Social Science elective .............................3

II. Physical Education Activity 2 credits

III. Area of Concentration 41 credits
- EE:130 Electric Circuits I .....................................4
- EE:131 Electric Circuits II .....................................4
- EE:132 Electronic Devices .......................................5
- EE:201 Computer Peripherals ....................................4
- EE:202 Logic and Switching Circuits ............................4
- EE:203 Operating Systems ......................................3
- EE:207 Industrial Instrumentation ...............................3
- EE:233 Digital Logic ............................................4
- EE:235 Electronic Communications .............................4
- EE:242 Introduction to Microprocessors ....................3
- EE:244 Microprocessor Applications ...........................3

Program total ..............................72 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.
Construction Office Management

CERTIFICATE OF SPECIALIZATION

Florissant Valley

This program was designed to provide students with a solid background in the four areas of concentration relating to the construction industry. These areas are: estimating, scheduling, blueprint reading and management. Students successfully completing this program can seek immediate employment by marketing themselves as individuals qualified to participate in construction bidding and management functions, or can continue on in the Construction Technology Program and receive an Associate in Applied Science Degree. The certificate program can be completed either in two-semesters by taking regular semester long courses, or in a (five-month) compressed program can be completed either in two-semesters by taking regular semester long courses, or in a (five-month) compressed program.

The program of study will consist of 15 credit hours of course work in estimating, scheduling, blueprint reading and management.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CE:116</td>
<td>3</td>
</tr>
<tr>
<td>CE:131</td>
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<tr>
<td>CE:132</td>
<td>3</td>
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<tr>
<td>CE:235</td>
<td>3</td>
</tr>
<tr>
<td>GE:101</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total ................. 15 credits

Construction Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE

Florissant Valley

This program prepares students to work as technicians in the construction industry. Students acquire knowledge and skills in all phases of construction including planning, design, construction methods and contract management.

Persons interested in this program should have an interest in construction and enjoy working outdoors. They will be involved in problem solving so will eventually need a good background in mathematics.

Graduates are qualified for positions in the areas of inspection, work scheduling, estimating, material ordering, equipment sales, field management and construction planning and layout.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG:100</td>
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<td>ENG:101</td>
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<td>MTH:124</td>
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<tr>
<td>SOC:103</td>
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<tr>
<td>XXX:xxx</td>
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</table>

I. Career General Education  27 credits

II. Physical Education Activity  2 credits

III. Area of Concentration  33 credits

<table>
<thead>
<tr>
<th>Courses</th>
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<tr>
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<td>CE:108</td>
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<td>CE:116</td>
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<td>CE:230</td>
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<td>CE:235</td>
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<td>ME:135</td>
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<td>ME:243</td>
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</table>

IV. Electives  6 credits

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<thead>
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<th>Courses</th>
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<tbody>
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<td>CE:240</td>
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<td>CE:250</td>
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<td>MGT:103</td>
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<td>MGT:204</td>
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</table>

Program total ................. 68 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

Credit Management

CERTIFICATE OF PROFICIENCY

Florissant Valley

Developed in conjunction with the St. Louis Chapter of the National Institute of Credit, this certificate provides relevant career training for those employed in the credit management field and a sound foundation for those who are seeking entry level positions in the credit field.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tr>
<td>ACC:111</td>
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<td>AOS:220</td>
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<td>ECO:151</td>
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<td>ECO:152</td>
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<td>FIN:201</td>
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<td>MGT:118</td>
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<tr>
<td>MGT:219</td>
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</tr>
</tbody>
</table>

Program total ................. 25 credits
Criminal Justice: Corrections Option

ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park

This program will prepare students for entry-level employment in the Criminal Justice/Corrections field. Also it will help those currently employed in the field to gain promotion and will provide a solid academic foundation for those wishing to transfer to other institutions of higher education to finish their academic goals. Students will study the correctional system as it relates to the total criminal justice system, i.e., law enforcement, courts, private security, etc. Probation, parole and rehabilitation will be covered and students will gain a working knowledge of these options to incarceration. Persons interested in this program should be capable of working effectively with others. Prior course work in psychology, sociology, human services and social studies will be beneficial. Graduates will be qualified for entry-level positions at the city, county and state level for correctional officers.

I. Career General Education 32-36 credits
   ENG:101 College Composition I ..................................................3
   ENG:102 College Composition II ..................................................3
   COM:101 Oral Communication I ..................................................3
   SOC:101 Introduction to Sociology .................................................3
   PSY:200 General Psychology .......................................................3
   ANT:103 Cultural Variations (or)
   SOC:203 Crime and Deviance .......................................................3
   PSC:101 Introduction to American Politics .....................................3
   MTH:XXX Math elective (100 level or above) ...................................3-4
   XXX:xxx Science elective ............................................................3-4
   PHL:104 Ethics ..............................................................................3
   IS:101 Keyboarding .................................................................1
   AOS:106 Keyboarding/Typewriting II (or) .......................................1
   IS:116 Microcomputer Literacy (or)
   IS:151 Microcomputer Applications in Business ..................................3-4

II. Physical Education Activity 2 credits

III. Area of Concentration 30 credits
   CRJ:101 American Correctional System ...........................................3
   CRJ:102 Rehabilitation, Parole and Probation ...................................3
   CRJ:122 Introduction to Criminal Justice ........................................3
   CRJ:123 Juvenile Justice .................................................................3
   CRJ:124 Criminal Law and Procedures ..........................................3
   CRJ:208 Correctional Policies and Procedures ..................................3
   ENG:101 College Composition I ..................................................3
   SOC:101 Introduction to Sociology ..................................................3
   XXX:xxx Sociology (PSY or SOC) ..................................................6
   PHL:104 Ethics ..............................................................................3
   MTH:XXX Mathematics 100 level or above .....................................3-4
   XXX:xxx Science requirement .....................................................3-4
   IS:116 Microcomputer Literacy (or)
   IS:151 Microcomputer Applications in Business ..............................3-4

Program total .............................................64-67 credits

CERTIFICATE OF PROFICIENCY
Forest Park

This program prepares students for entry level employment and advancement in the corrections field. Students learn to work toward the prevention of crime through rehabilitation, probation, work release and other modern treatment techniques.

Program total .................................33 credits

Criminal Justice: Law Enforcement Option

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florentiann Valley, Forest Park and Meramec

This program is designed to prepare students for entry-level employment in the criminal justice system; provide those currently employed by a law enforcement agency for promotion; provide a background in law enforcement for those preparing for studies such as pre-law and advanced study in police management, criminology or social welfare. The program introduces students to the criminal justice system and its components. Students will obtain a working knowledge of the laws and procedures of the Missouri Juvenile Code.

Persons interested in this program should be capable of working effectively with others. Previous participation in team sports, military service and other group experiences are helpful. Prior course work in psychology, sociology, social studies and law is also beneficial.

Graduates are qualified for positions in law enforcement agencies, private security organizations and businesses such as insurance companies, banks and retail operations.

I. Career General Education 30-33 credits
   ENG:101 College Composition I ..................................................3
   ENG:102 College Composition II ..................................................3
   COM:101 Oral Communication I ..................................................3
   XXX:xxx Missouri State Requirement .............................................3
   XXX:xxx Social Science (PSY or SOC) ..........................................6
   PHL:104 Ethics ..............................................................................3
   MTH:XXX Mathematics 100 level or above .....................................3-4
   XXX:xxx Science requirement .....................................................3-4
   IS:116 Microcomputer Literacy (or)
   IS:151 Microcomputer Applications in Business ..............................3-4

II. Physical Education Activity 2 credits

III. Area of Concentration 21 credits
   CRJ:111 Rules of Criminal Evidence .............................................3
   CRJ:122 Introduction to Criminal Justice ........................................3
   CRJ:123 Juvenile Justice .................................................................3
   CRJ:124 Criminal Law and Procedures ..........................................3
CRJ:207  Police Supervision .........................3  
CRJ:206  Management of Human Conflicts (or)  
SOC:203  Criminology and Deviance ................3  
CRJ:212  Criminal Investigation .....................3  

IV. Electives  9-11 credits  

Program total .......... 64-67 credits  

CERTIFICATE OF PROFICIENCY  
Florissant Valley, Forest Park and Meramec  
This program prepares students for employment and advancement in Law Enforcement. Students are provided with a sound background in legal procedures, a strong base of writing skills and a basic understanding of the government process.  

Courses  Credits  
CRJ:111  Rules of Criminal Evidence ..................3  
CRJ:122  Introduction to Criminal Justice ..............3  
CRJ:123  Juvenile Justice ..............................3  
CRJ:124  Criminal Law and Procedures ................3  
CRJ:207  Police Supervision ............................3  
CRJ:212  Criminal Investigation ........................3  
ENG:101  College Composition I .........................3  
CRJ:206  Management of Human Conflicts (or) ..  
SOC:203  Criminology and Deviance ..................3  
PHL:104  Ethics ........................................3  
Select one course:  
HST:100  American Civilization  
HST:101  American History I  
HST:102  American History II  
PSC:101  Introduction to American Politics  
PSC:102  American National Politics  
PSC:103  State and Urban Politics  

Electives  3 credits  
Recommended electives include courses in criminal justice, human services, and sociology as related to the Criminal Justice field.  

Program total ............ 33 Credits  

Database Developer  
CERTIFICATE OF SPECIALIZATION  
Florissant Valley, Forest Park and Meramec  
This certificate is designed for individuals who are interested in developing skills to create and manage databases. It will provide the student with the tools, knowledge, and practical experience needed to design, develop, program, implement and administer a database. Graduates will be qualified for the high demand positions of Advanced User, Developer, Analyst, Administrator, or Programmer in a database environment. The Certificate of Specialization is designed to parallel the courses in the Oracle Developer Certificate of Proficiency. This certificate can be an intermediate affirmation of success for a student or provide a quantitative benchmark for those who do not need the additional course material provided in the Certificate of Proficiency.  

Advanced users, management, and programmers could select this shorter while still intense certificate in database techniques.  

Prerequisites:  
IS:225  Database Management (or)  
Database Experience  
IS:246  Visual Basic Programming (or)  
IS:251  Introduction to Java (or)  
IS:227  C Programming Language I (or)  
Approved Programming Language  

Core Courses  3 credits  
IS:257  Advanced Database Design .....................3  

Oracle Focus  12 credits  
IS:133  Introduction to SQL .........................3  
IS:272  Oracle Database Administration ...............3  
IS:271  Oracle User Interface Design ................3  
IS:273  Oracle Design and Implementation (or)  
IS:262  Advanced Web Development ....................3  

Electives (select on course)  3 credits  
IS:259  Introduction to JavaScript ....................3  
IS:255  Advanced Visual Basic Programming ..........3  
IS:256  C++ Object-Oriented Programming ..........3  
IS:270  Oracle PL/SQL ................................3  

Program total ............ 18 credits  

Deaf Communication Studies: Interpreter Education  
ASSOCIATE IN APPLIED SCIENCE DEGREE  
Florissant Valley  
This two-year American Sign Language interpreter education program provides the instruction and experience needed to interpret between individuals using American Sign Language and English. Focus is on a multi-disciplinary and interdisciplinary approach to interpreting centered around the theory of interpretation. This professional, career program consists of a comprehensive, sequential, and integrated series of courses intended to provide students with the necessary mastery of the theory, techniques, and skills required to enter the profession of interpretation.  

Students interested in the interpreting profession can expect to expand their worldview, commit to lifelong learning, meet new people, and experience diverse situations, within large and small group settings.  

The foundation of the curriculum is American Sign Language (ASL) which is the native, indigenous language of the North American Deaf community. We recognize the Deaf community as a linguistic and cultural minority that functions distinctly from the American mainstream culture.  

Admission into the program is contingent upon meeting established criteria, as defined in the DCS-IEP Advising Checklist.  

Graduates of the program will be prepared for entry level, paraprofessional interpreting positions.
Deaf Communication Studies:
American Sign Language

CERTIFICATE OF PROFICIENCY

Florissant Valley

The foundation of the curriculum is American Sign Language (ASL), which is the native, indigenous language of the North American Deaf community. We recognize the Deaf community as a linguistic and cultural minority that functions distinctly from the American mainstream culture.

Students of this program will learn to recognize and adapt to the variations in language that exists within the deaf and non-deaf communities. Students learn to create equivalency in meaning between English and ASL.

These entry-level language courses are open to all members of the Deaf and non-deaf community.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DCS:104 American Sign Language I</td>
<td>5</td>
</tr>
<tr>
<td>DCS:105 American Sign Language II</td>
<td>5</td>
</tr>
<tr>
<td>DCS:107 Fingerspelling</td>
<td>3</td>
</tr>
<tr>
<td>DCS:111 Theory of American Sign Language</td>
<td>3</td>
</tr>
<tr>
<td>DCS:115 Introduction to Deaf Communication Studies</td>
<td>3</td>
</tr>
<tr>
<td>DCS:116 American Sign Language Semantics</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total ..................22 credits

Dental Assisting

CERTIFICATE OF PROFICIENCY

Forest Park

This program prepares students to work as members of the dental health care team. Students receive a broad background in all aspects of dentistry through extensive classroom, laboratory and clinical instruction. Major emphasis is placed on gaining proficiency in chairside assisting procedures and expanded functions. Students learn to prepare patients and records for treatment, sterilize and prepare instrument trays, take x-rays and impressions, and prepare restorative materials for dental procedures.

The Missouri Dental Board has approved nineteen (19) expanded functions for dental assistants who meet specific certification and training criteria. Competency in one or more expanded functions enlarges the skill mix of the assistant, increases the responsibilities of the assistant and enhances the value of the assistant to the dental health care team. The program will incorporate expanded functions training into the curriculum. Graduates will be certified to perform these functions and can assume expanded roles on the dental health care team as delegated by their employer. These highly skilled professionals will be in great demand.

Persons interested in this program should be comfortable working with people of all ages in close one-to-one relationships. They should have manual dexterity and be attentive to detail.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>COM:101 Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>DA:143 Chairside Assisting: Operative Dentistry</td>
<td>2</td>
</tr>
<tr>
<td>DA:144 Preclinical Practice</td>
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<tr>
<td>DA:149 Dental Terminology</td>
<td>1</td>
</tr>
<tr>
<td>DA:150 Infection Control in Dentistry</td>
<td>1</td>
</tr>
<tr>
<td>DA:151 Fundamentals of Chairside Assisting</td>
<td>2</td>
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<tr>
<td>DA:157 Dental Radiology</td>
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<td>DA:159 Dental Office Procedures</td>
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<td>DA:161 Dental Assisting Practicum</td>
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<tr>
<td>DA:162 Dental Systems Management</td>
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<tr>
<td>DA:164 Clinical Applications I</td>
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<td>DA:166 Dental Lab Procedures</td>
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<td>DA:167 Dental Radiology II</td>
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<tr>
<td>DA:168 Integrated Dental Sciences</td>
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<td>DA:169 Preventive Dental Health</td>
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<tr>
<td>DA:172 Dental Practice Management</td>
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<tr>
<td>DA:173 Chairside Assisting: Dental Specialties</td>
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<tr>
<td>DA:174 Clinical Applications II</td>
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<td>DA:175 Dental Assisting Practicum II</td>
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<td>DA:176 Dental Assisting Practicum III</td>
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<td>DA:201 Expanded Functions I</td>
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<td>ENG:101 College Composition I</td>
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</table>

Program Total .................40 credits
Dental Hygiene

ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park

This program prepares students to practice dental hygiene under the supervision of a practicing dentist. Through classroom work and laboratory and clinical experience in the on-campus public dental hygiene clinic, students learn to conduct patient assessments, take medical and dental histories, perform diagnostic tests and examinations, instruct patients in preventive dental health practices, perform various dental procedures and to design and implement community and school health programs. Persons interested in this program should enjoy working with people from all age groups. An interest in biology and the health sciences is important. Good eye/hand coordination and attention to detail is necessary.

Graduates are qualified for positions as dental hygienists and may serve as clinical practitioners in general or specialty dental practice, as educators, researchers, administrators, managers, program developers, consultants or dental product sales representatives. Employment is available in the military, health maintenance organizations, community health agencies, private industry, and abroad with the Peace Corps or World Health Organization.

Dental Hygiene Program Prerequisites:
BIO:207 Anatomy and Physiology I
BIO:208 Anatomy and Physiology II
CHM:101 Fundamentals of Chemistry
(These prerequisites must be satisfied prior to entry in the program.)

I. Career General Education 19 credits
COM:101 Oral Communications I 3
ENG:101 College Composition I 3
SOC:101 Introduction to Sociology 3
PSY:200 General Psychology I 3
BIO:203 General Microbiology 4
XXX:xxx Missouri State Requirement 3

II. Physical Education Activity 2 credits

III. Area of Concentration 53 credits
DHY:126 Dental Radiology I 2
DHY:127 Oral Anatomy 3
DHY:120 Concepts of Pre-Clinical Dental Hygiene I 3
DHY:129 Dental Medical Emergencies 1
DHY:125 Periodontics I 2
DHY:128 Biomedical Sciences for the Dental Hygienist 2
DHY:121 Clinical Applications Lab I 1
DHY:138 General and Oral Pathology 2
DHY:137 Anatomy and Embryology of the Head and Neck 2
DHY:130 Concepts of Clinical Dental Hygiene II 3
DHY:132 Clinical Dental Hygiene II 4
DHY:131 Clinical Applications Lab II 1
DHY:136 Dental Nutrition and Biochemistry 3

DHY:142 Clinical Dental Hygiene Summer 2
DHY:215 Pain Control 2
DHY:226 Dental Radiology II 1
DHY:223 Community Public Health 2
DHY:225 Periodontics II 2
DHY:222 Clinical Dental Hygiene III 4
DHY:221 Clinical Applications Lab III 1
DHY:220 Concepts of Clinical Dental Hygiene III 2
DHY:232 Clinical Dental Hygiene IV 4
DHY:230 Transition into Professional Dental Hygiene Practice 2
DHY:228 Dental Pharmacology 2

Program total . . . . . . . . . . . . . . 74 credits

Diagnostic Medical Sonography

CERTIFICATE OF PROFICIENCY
Forest Park

This program provides a specialty in ultrasound technology for graduates of an associate degree or two-year hospital-based program in another allied health area. Students attend full-time and complete classroom work and clinical education in an affiliated ultrasound department. Students acquire skills in record keeping, reviewing and recording pertinent clinical patient history, performing the sonographic examination, providing for the comforts and needs of the patient during the examination and recording the anatomic, pathologic and physiologic data for interpretation by the supervising physician.

Thoroughness, accuracy and empathy are traits needed by persons interested in this program. They also should be versatile and able to follow precise and detailed directions.

Graduates are eligible to take the certifying examination of the American Registry of Diagnostic Medical Sonographers in the specialty areas of abdomen and obstetrical-gynecology. Positions are available in hospital ultrasound departments, clinics, mobile services and private physicians’ offices.

Core Curriculum 12 credits
DMS:101 Clinical Foundations of Ultrasound 2
DMS:102 Medical Ethics and Professional Issues 2
DMS:103 Ultrasound Physics and Instrumentation I 2
DMS:104 Ultrasound Physics and Instrumentation II 3
DMS:201 Ultrasound Physics and Instrumentation III 3

Medical Sonography Option 30 credits
DMS:105 Medical Sonography I 3
DMS:106 Medical Sonography Scanning Techniques I 1
DMS:107 Medical Sonography Practicum I 2
DMS:108 Medical Sonography II 3
DMS:109 Medical Sonography Scanning Techniques II 1
Diesel Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE

Forest Park

The AAS degree Diesel Technology program is designed to prepare graduates for careers as medium/heavy truck repair technicians. Graduates will be qualified for positions requiring diagnosis and repair of the following truck systems: diesel engines, suspension & steering, brakes, electrical & electronic, preventive maintenance, drive train, and heating, ventilation, and air conditioning. Graduates will be competent for entry level positions in new vehicle dealerships, truck and bus leasing companies, street and highway departments, and metropolitan transit facilities.

Cardiac Sonography Option 30 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DMS:112</td>
<td>Cardiac Sonography I</td>
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<tr>
<td>DMS:113</td>
<td>Cardiac Sonography Scanning Techniques I</td>
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<td>DMS:114</td>
<td>Cardiac Sonography Practicum I</td>
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</tr>
<tr>
<td>DMS:115</td>
<td>Cardiac Sonography II</td>
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<tr>
<td>DMS:116</td>
<td>Cardiac Sonography Scanning Techniques II</td>
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<tr>
<td>DMS:117</td>
<td>Cardiac Sonography Clinical Applications I</td>
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<td>DMS:118</td>
<td>Cardiac Sonography Practicum II</td>
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<td>DMS:207</td>
<td>Cardiac Sonography III</td>
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<td>DMS:208</td>
<td>Cardiac Sonography Practicum III</td>
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<td>DMS:209</td>
<td>Cardiac Sonography IV</td>
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<td>DMS:210</td>
<td>Cardiac Sonography Clinical Application II</td>
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<tr>
<td>DMS:211</td>
<td>Cardiac Sonography Practicum IV</td>
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</table>

Vascular Technology Option 30 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>DMS:119</td>
<td>Vascular Technology I</td>
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<td>DMS:120</td>
<td>Vascular Technology Scanning Techniques I</td>
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<tr>
<td>DMS:121</td>
<td>Vascular Technology Practicum I</td>
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<td>DMS:122</td>
<td>Vascular Technology II</td>
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<td>DMS:123</td>
<td>Vascular Technology Scanning Techniques II</td>
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<td>DMS:124</td>
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<td>DMS:125</td>
<td>Vascular Technology Practicum II</td>
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<td>DMS:212</td>
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<td>DMS:213</td>
<td>Vascular Technology Practicum III</td>
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<td>DMS:214</td>
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<td>DMS:215</td>
<td>Vascular Technology Clinical Applications II</td>
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<td>DMS:216</td>
<td>Vascular Technology Practicum IV</td>
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Program total 42 credits

II. Physical Education Activity 2 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>DIE:101</td>
<td>Diesel Engine Operation and Repair</td>
<td>3</td>
</tr>
<tr>
<td>DIE:102</td>
<td>Medium/Heavy Truck Suspension and Steering</td>
<td>3</td>
</tr>
<tr>
<td>DIE:103</td>
<td>Medium/Heavy Truck Electricity</td>
<td>3</td>
</tr>
<tr>
<td>DIE:104</td>
<td>Electronic Information Systems and Manuals</td>
<td>3</td>
</tr>
<tr>
<td>DIE:105</td>
<td>Diesel Fuel Systems</td>
<td>3</td>
</tr>
<tr>
<td>DIE:106</td>
<td>Medium/Heavy Truck Brakes</td>
<td>3</td>
</tr>
<tr>
<td>DIE:107</td>
<td>Medium/Heavy Truck Electronics</td>
<td>3</td>
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<tr>
<td>DIE:201</td>
<td>Preventive Maintenance Inspection</td>
<td>3</td>
</tr>
<tr>
<td>DIE:206</td>
<td>Medium/Heavy Truck Drivetrains</td>
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<tr>
<td>DIE:203</td>
<td>Truck Heating, Ventilation and Air Conditioning</td>
<td>3</td>
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<tr>
<td>DIE:204</td>
<td>Service and Parts Management</td>
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<tr>
<td>DIE:205</td>
<td>Co-op Work Experience I-Diesel Technology</td>
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<tr>
<td>ME:101</td>
<td>Welding Technology</td>
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Program total 65 credits

CERTIFICATE OF PROFICIENCY

Forest Park Courses 45 credits

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<th>Course Code</th>
<th>Course Title</th>
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<td>ENG:101</td>
<td>College Composition I (or)</td>
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<tr>
<td>MTH:108</td>
<td>Elementary Applied Mathematics (or)</td>
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<tr>
<td>BUS:104</td>
<td>Introduction to Business Administration</td>
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<tr>
<td>DIE:101</td>
<td>Diesel Engine Operation and Repair</td>
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<tr>
<td>DIE:102</td>
<td>Medium/Heavy Truck Suspension and Steering</td>
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<td>DIE:103</td>
<td>Medium/Heavy Truck Electricity</td>
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<td>DIE:104</td>
<td>Electronic Information Systems and Manuals</td>
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<td>DIE:105</td>
<td>Diesel Fuel Systems</td>
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<tr>
<td>DIE:106</td>
<td>Medium/Heavy Truck Brakes</td>
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<td>Medium/Heavy Truck Electronics</td>
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<td>DIE:201</td>
<td>Preventive Maintenance Inspection</td>
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<td>DIE:202</td>
<td>Co-op Work Experience I-Diesel Technology</td>
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<td>DIE:203</td>
<td>Truck Heating, Ventilation, and Air Conditioning</td>
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<td>DIE:204</td>
<td>Service and Parts Management</td>
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<td>DIE:205</td>
<td>Co-op Work Experience II-Diesel Technology</td>
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<td>ME:101</td>
<td>Welding Technology</td>
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Program total 45 credits
CERTIFICATE OF SPECIALIZATION

Forest Park

I. Career General Education 19-20 credits

ENG:101 College Composition I (or) ...............3
COM:101 Oral Communication I ........................3
MTH:xxx Mathematics Elective .........................3
(MTH:108 or higher)
BIO/CHM: Biology/Chemistry Elective ............4-5
PSY:200 General Psychology ........................3
XXX:xxx Missouri State Requirement ...............3

II. Physical Education Activity 2 credits

III. Area of Concentration 46 credits

DIT:108 Food: Preparation and Science Lecture 3
DIT:109 Food: Preparation and Science Lab ....2
DIT:103 Food Management ............................3
DIT:104 Clinical Nutrition ...........................3
DIT:214 Nutrition Through the Life Cycle .......3
DIT:106 Food Management Practicum ..............3
DIT:107 Clinical Nutrition Practicum ..............3
DIT:115 Principles of Nutrition .....................3
DIT:201 Food Systems Management .................3
DIT:202 Medical Nutrition Therapy ...............3

Program total ......................................18 credits

Dietetic Technology:
Food Service Management Option

ASSOCIATE IN APPLIED SCIENCE DEGREE

Florissant Valley

This program includes a variety of courses in food and nutrition sciences, foodservice systems management, communication and education. Students completing the program are eligible to sit for the national registration exam to become credentialed as a Dietetic Technician, Registered (DTR). Dietetic technicians in the food service management area work independently or in teams with registered dietitians in schools, day-care centers, correctional facilities, health facilities, corporations and hospitals managing employees, purchasing and food preparation, and preparing budgets within food service operations. Food companies, contract food management companies, or food vending distribution operations hire dietetic technicians to develop menus, overseeing food service preparation and food safety, and preparing food labeling and nutrient information.

I. Career General Education 19-20 credits

ENG:101 College Composition I ..........................3
COM:101 Oral Communication I ........................3
MTH:xxx Mathematics Elective ........................3
(MTH:108 or higher)
BIO/CHM: Biology/Chemistry Elective ............4-5
PSY:200 General Psychology ........................3
XXX:xxx Missouri State Requirement ...............3

II. Physical Education Activity 2 credits

III. Area of Concentration 46 credits

DIT:108 Food: Preparation and Science Lecture 3
DIT:109 Food: Preparation and Science Lab ....2
DIT:103 Food Management ............................3
DIT:104 Clinical Nutrition ...........................3
DIT:214 Nutrition Through the Life Cycle .......3
DIT:106 Food Management Practicum ..............3
DIT:107 Clinical Nutrition Practicum ..............3
DIT:115 Principles of Nutrition .....................3
DIT:201 Food Systems Management .................3
DIT:202 Medical Nutrition Therapy ...............3

Program total ......................................70-71 credits

IV: Program Elective 3 credits

Dietetic Technology:
Nutrition Care Option

ASSOCIATE IN APPLIED SCIENCE DEGREE

Florissant Valley

This program includes a variety of courses in food and nutrition sciences, foodservice systems management, communication and education. Students completing the program are eligible to sit for the national registration exam to become credentialed as a Dietetic Technician, Registered (DTR). Dietetic technicians in the nutrition care area work independently or in teams with registered dietitians in hospitals, HMOs, clinics, nursing homes, retirement centers, hospital health care programs and research facilities helping to treat and prevent disease and administering medical nutrition therapy as an important member of health care teams. WIC programs, public health agencies, company health programs, health clubs, weight management clinics, and community wellness programs hire dietetic technicians to develop and teach nutrition classes and educate clients about the connection between food, fitness and health.

I. Career General Education 19-20 credits

ENG:101 College Composition I ......................3
COM:101 Oral Communication I ........................3
MTH:xxx Mathematics Elective ........................3
(MTH:108 or higher)
BIO/CHM: Biology/Chemistry Elective ............4-5
PSY:200 General Psychology ........................3
XXX:xxx Missouri State Requirement ...............3

II. Physical Education Activity 2 credits

III. Area of Concentration 46 credits

DIT:108 Food: Preparation and Science Lecture 3
DIT:109 Food: Preparation and Science Lab ....2
DIT:103 Food Management ............................3
DIT:104 Clinical Nutrition ...........................3
DIT:214 Nutrition Through the Life Cycle .......3
DIT:106 Food Management Practicum ..............3
DIT:107 Clinical Nutrition Practicum ..............3
DIT:115 Principles of Nutrition .....................3
DIT:201 Food Systems Management .................3
DIT:202 Medical Nutrition Therapy ...............3

Program total ......................................70-71 credits

IV: Program Elective 3 credits

Program Director has list of approved courses
Digital Media: Fine Art

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park, Meramec

The Digital Media Certificate in Fine Art, Certificate of Proficiency program, is designed to meet the needs of those professionals currently working in the various fields of digital imaging and web page development. These courses will provide returning professional artist and new students the expertise necessary in using the graphic tools made available by advances in technology. Students will learn ways in which traditional methods can be enhanced by computer technology and software. Students in this certificate program will develop skills necessary for expression in the form of digital imaging as it pertains to fine art. The students will be trained in state-of-the-art facilities using the most current software and hardware available.

Prerequisites:
The following courses must be completed prior to enrolling in the certificate program:
- ART: 108 Design II
- ART: 110 Drawing II
- ART: 112 Figure Drawing II

Area of Concentration 19 credits
- ART: 131 Computer Art Studio (or)
- ART: 127 Introduction to Computer Arts .... 3
- ART: 275 Photo Imaging I: Photoshop ......... 3
- AT: 101 Color Management .......... 3
- AT: 100 Hardware Configuration and Troubleshooting: Macintosh/Windows ... 1
- AT: 103 Troubleshooting: Macintosh/Windows ...
- AT: 105 Digital Printing ............. 3
- AT: 106 Two Dimensional Computer Animation: Adobe After Effects ....... 3
- AT: 135 (or) IS: 135 (or) MCM: 135 Communication and Design for the WWW .... 3
- AT: 146 3D Modeling I: Surface Modeling .... 3
- AT: 234 Computer Animation I ......... 3

Electives 3 credits
- Select three credits from the following:
  - AT: 276 Photo Imaging II: Photoshop ......... 3
  - AT: 106 Two Dimensional Computer Animation: Adobe After Effects ....... 3
  - AT: 135 (or) IS: 135 (or) MCM: 135 Communication and Design for the WWW .... 3
- AT: 146 3D Modeling I: Surface Modeling .... 3

Final Course
- AT: 160 Digital Capstone ............. 3

Program total ............ 25 credits
Digital Media: Graphic Design

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park, Meramec

The Digital Media Certificate in Graphic Design, Certificate of Proficiency program, is designed to meet the needs of those professionals currently working in the various fields of digital imaging and web page development. These courses will provide returning professional artist and new students the expertise necessary in using the graphic tools made available by advances in technology. Students will learn ways in which traditional methods can be enhanced by computer technology and software. Students in this certificate program will develop skills necessary for expression in the form of digital imaging as it pertains to graphic design. The students will be trained in state-of-the-art facilities using the most current software and hardware available.

Prequisites:
The following courses must be completed prior to enrolling in the certificate program:

ART:134 Graphic Design II
ART:165 Photography I
ART:238 Drawing for Graphics II

Area of Concentration 18 credits
ART:131 Computer Art Studio (or)
ART:127 Introduction to Computer Arts .............3
ART:275 Photo Imaging I: Photoshop ..................3
AT:101 Color Management .............................3
AT:100 Hardware Configuration and
Troubleshooting: Macintosh/Windows ........1
AT:120 Computer Drawing I: Illustrator ............3
ART:241 Publication Design ..........................3
ART:236 Typography .................................2

Electives 3 credits
Select three credits from the following:
AT:276 Photo Imaging II: Photoshop ..................3
AT:106 Two Dimensional Computer Animation:
Adobe After Effects .................................3
AT:135 (or) IS:135 (or) MCM:135
Communication and Design for the WWW I ....3
AT:109 Universal Document Exchange:
Adobe Acrobat ........................................3
AT:108 Computer Painting and Drawing:
Corel Painter ..........................................3
AT:135 (or) IS:135 (or) MCM:135
Communication and Design for the WWW I ....3

Final Course
AT:160 Digital Capstone ..............................3

Program total ...................... 24 credits

Digital Media: Photography

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park, Meramec

The Digital Media Certificate in Photography, Certificate of Proficiency program, is designed to meet the needs of those professionals currently working in the various fields of digital imaging and web page development. These courses will provide returning professional artist and new students the expertise necessary in using the graphic tools made available by advances in technology. Students will learn ways in which traditional methods can be enhanced by computer technology and software. Students in this certificate program will develop skills necessary for expression in the form of digital imaging as it pertains to photography. The students will be trained in state-of-the-art facilities using the most current software and hardware available.

Prequisites:
The following courses must be completed prior to enrolling in the certificate program:

ART:108 Design II
ART:167 Color Photography

Area of Concentration 19 credits
ART:131 Computer Art Studio (or)
ART:127 Introduction to Computer Arts .............3
ART:275 Photo Imaging I: Photoshop ..................3
AT:101 Color Management .............................3
AT:100 Hardware Configuration and
Troubleshooting: Macintosh/Windows ........1
AT:276 Photo Imaging II: Photoshop ..................3
AT:105 Digital Printing ...............................3
AT:104 Electronic Photo Studio .......................3

Electives 3 credits
Select three credits from the following:
AT:106 Two Dimensional Computer Animation;
Adobe After Effects .................................3
AT:109 Universal Document Exchange:
Adobe Acrobat ........................................3
AT:108 Computer Painting and Drawing:
Corel Painter ..........................................3
AT:135 (or) IS:135 (or) MCM:135
Communication and Design for
the WWW I ...........................................3

Final Course
AT:160 Digital Capstone ..............................3

Program total ...................... 25 credits
Digital Media: World Wide Web

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park, Meramec

The Digital Media Certificate in World Wide Web, Certificate of Proficiency program, is designed to meet the needs of those professionals currently working in the various fields of digital imaging and web page development. These courses will provide returning professional artists and new students the expertise necessary in using the graphic tools made available by advances in technology. Students will learn in ways in which traditional methods can be enhanced by computer technology and software. Students in this certificate program will develop skills necessary for expression in the form of digital imaging as it pertains to the world wide web. The students will be trained in state-of-the-art facilities using the most current software and hardware available.

Prerequisites:
The following courses must be completed prior to enrolling in the certificate program:
- ART:108 Design II
- ART:110 Drawing II
- ART:111 Figure Drawing I
- ART:134 Graphic Design II
- MCM:217 Publications Writing

Area of Concentration 22 credits
- ART:131 Computer Art Studio (or) 3
- ART:127 Introduction to Computer Arts 3
- ART:275 Photo Imaging I: Photoshop 3
- AT:101 Color Management 3
- AT:100 Hardware Configuration and Troubleshooting: Macintosh/Windows 1
- AT:120 Computer Drawing I: Illustrator 3
- AT:135 (or) IS:135 (or) MCM:135 Communication and Design for the WWW I 3
- AT:143 Communication and Design for the WWW II 3
- AT:144 WWW Special Topics 3

Final Course 2 credits
- AT:160 Digital Capstone 3

Program total 25 credits

E-Commerce

CERTIFICATE OF SPECIALIZATION
Florissant Valley, Meramec

The program will help develop skilled practitioners in electronic commerce, web site development, data-mining and warehousing, interactive media, and other new technologies used by businesses and organizations in the communication of mission-critical information to both internal and external audiences.

Through guided exposure to and interaction with the specialized hardware and software used to create these new communications tools, the student will gain professional hands-on knowledge, a better overall comprehension of the current "state of the art," and practical skills which may be immediately used on the job or in a professional portfolio.

Program total 25 credits

Early Care and Education

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley, Forest Park and Meramec

The associate in applied science degree is a two-year program of study with a concentration of coursework in early education, child development, and family studies. Students who complete the AAS degree can find employment as teachers or directors in early childhood settings, including preschool programs, teacher assistants in elementary schools, or as parent educators working within the community.

Students must earn at least a “C” in certain courses to be eligible for the associate degree. See an academic advisor or the program coordinator for details.

I. Career General Education 18 credits
- ENG:101 College Composition I 3
- MTH:108 Elementary Applied Mathematics or higher 3
- XXX:xxx Missouri State Requirement 3
- XXX:xx Social Science elective 3
- XXX:xx Science elective 3
- XXX:xx Humanities or Communications elective 3

II. Physical Education Activity 2 credits

II. Area of Concentration 42 credits
- ECE:101 Introduction to Early Care and Education 3
- ECE:102 Creative Experiences in Early Care and Education 3
- ECE:103 Language and Literacy in Early Care and Education 3
- ECE:104 Principles of Early Care and Education 3
- ECE:105 Child Development Laboratory 3
- ECE:124 Child Nutrition, Health and Safety 3
- ECE:125 Child Growth and Development I 3
- ECE:127 Family and Teacher Interactions 3
- ECE:200 Guiding Young Children 3
- ECE:201 Math and Science in Early Care and Education 3
- ECE:202 Movement and Music in Early Care and Education 3
ECE:203 Early Care and Education Practicum I .................. 3
ECE:205 Child and Society ........................................ 3
ECE:206 Early Care and Education Practicum II .................. 3

IV. Electives 3 credits
ECE:107 Early Care and Special Education ..................... 3
ECE:108 Infant, Toddler, and Two-year ......................... 3
ECE:126 Child Growth and Development II ..................... 3
ECE:204 Management of Early Care and Education Settings ........... 3
ECE:207 Activities for Special Individuals ..................... 3
ECE:208 Before and After School Care ......................... 3

Program total .................................. 65 credits

Early Care and Education—Child Development Associate Option

ASSOCIATE IN APPLIED SCIENCE DEGREE

Forest Park

This program is competency-based. It provides students with the knowledge and skills to care for children, ages birth through eight, and to communicate effectively with parents and other child care personnel. Students acquire child care proficiency by working part time in a child care setting, through academic instruction in six competency areas, and individual study in 16 learning modules. The program requires regular college attendance and requires students to spend substantial amounts of time in direct contact with children in a child care facility.

Persons interested in this program should be responsible, mature and sensitive. They also should be in good physical condition and be able to interact positively with children and adults. They must be able to write with clarity and read and understand numerous readings. They should be prepared to adapt and change and to incorporate new knowledge and methods directly into teaching young children.

Graduates are qualified for positions as parent educators; substitute teachers in public schools; teacher-aides in public schools; directors, lead teachers or teacher-assistants in nursery schools, child care centers, residential centers; assistant recreational therapists or camp/recreation leaders.

I. Career General Education 18-19 credits
ENG:101 College Composition I ..................... 3
ENG:102 College Composition II ..................... 3
MTH:108 Elementary Applied Mathematics or higher .................. 3
XXX:xxx Science elective .................................. 3-4
XXX:xxx Missouri State Requirement .................. 3
SOC:101 Introduction to Sociology .................. 3

II. Physical Education Activity 2 credits

III. Area of Concentration 47 credits
ECE:109 Preschool Equipment and Materials .................. 3
ECE:110 Health and Safety in the Preschool .................. 2

ECE:111 Self-Concept of the Young Child ...................... 3
ECE:112 Social Development ................................ 3
ECE:113 Classroom Management ................................ 3
ECE:114 Cultural and Ethnic Variety ......................... 2
ECE:115 Home-School Coordination ......................... 2
ECE:116 Administration: Child Care ......................... 3
ECE:117 Early Childhood Learning Models .................. 2
ECE:118 Stimulation of Learning ......................... 2
ECE:119 Development of Physical Competence .................. 1
ECE:120 Development of Creative Expression .................. 2
ECE:121 Play and the Young Child ......................... 2
ECE:122 Individual Differences in the Young Child ........... 3
ECE:123 Planning and Scheduling in Programs for Young Children .................. 2
ECE:125 Child Growth and Development I .................. 3
ECE:209 Capacities/Qualities: Physical Learning Environment ........... 1
ECE:210 Capacities/Qualities: The Program .................. 1
ECE:211 Capacities/Qualities: Individual Child .................. 1
ECE:212 Capacities/Qualities: Social Environment ........... 1
ECE:213 Capacities/Qualities: Home and Center .................. 1
ECE:214 Capacities/Qualities: Supplementary Responsibility ........... 1
ECE:215 Skill Building Workshop ......................... 3

Program total .................. 67-68 credits

Early Care and Education—Developmental Disabilities Option

ASSOCIATE IN APPLIED SCIENCE DEGREE

Floressant Valley and Meramec

This option prepares students to work in preschools, residential centers and other programs having developmentally disabled children.

Students must earn at least a “C” in certain courses to be eligible for the associate degree. See an academic advisor or the program coordinator for details.

I. Career General Education 18 credits
ENG:101 College Composition I ..................... 3
ENG:102 College Composition II ..................... 3
XXX:xxx Humanities/Communications Elective .................. 3
XXX:xxx Missouri State Requirement .................. 3
MTH:108 Elementary Applied Math .................. 3
XXX:xxx Science elective ......................... 3
XXX:xxx Social Science elective .................. 3

II. Physical Education Activity 2 credits

III. Area of Concentration 48 credits
ECE:101 Introduction to Early Care and Education .................. 3
ECE:102 Creative Experiences in Early Care and Education .................. 3
ECE:103 Language and Literacy in Early Care and Education .................. 3
ECE:104 Principles of Early Care and Education .................. 3
ECE:105 Child Development Laboratory .................. 3
### Early Care and Education

**CERTIFICATE OF PROFICIENCY**  
**Florissant Valley and Meramec**

This certificate prepares students for entry-level or assistant teacher positions in early childhood programs.

Students who have had experience in early childhood programs or education in a different field may select the courses that are necessary to meet state licensing requirements for administrative positions in early childhood programs.

Students must earn at least a “C” in certain courses to be eligible for the associate degree. See an academic advisor or the program coordinator for details.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE:107</td>
<td>Early Care and Special Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE:124</td>
<td>Child Nutrition, Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>ECE:125</td>
<td>Child Growth and Development I</td>
<td>3</td>
</tr>
<tr>
<td>ECE:126</td>
<td>Child Growth and Development II</td>
<td>3</td>
</tr>
<tr>
<td>ECE:200</td>
<td>Guiding Young Children</td>
<td>3</td>
</tr>
<tr>
<td>ECE:201</td>
<td>Math and Science in Early Care and Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE:202</td>
<td>Movement and Music in Early Care and Education</td>
<td>3</td>
</tr>
<tr>
<td>ECE:203</td>
<td>Early Care and Education Practicum</td>
<td>3</td>
</tr>
<tr>
<td>ECE:205</td>
<td>Child and Society</td>
<td>3</td>
</tr>
<tr>
<td>ECE:206</td>
<td>Early Care and Education Practicum II</td>
<td>3</td>
</tr>
<tr>
<td>ECE:207</td>
<td>Activities for Special Individuals</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program total**  
**68 credits**

### Electrical Engineering Technology

**ASSOCIATE IN APPLIED SCIENCE DEGREE**  
**Florissant Valley**

This program prepares students to function as technical assistants to scientists and engineers performing installation, maintenance and modification of electronic systems. Through classroom work and practical experience in technology laboratories, students learn to prepare and interpret engineering drawings, perform testing procedures and compile technical data.

Persons interested in the program should be mechanically inclined and be able to follow instructions. Prior course work in physics and math is beneficial.

Graduates are qualified for positions as engineering assistants, drafters, inspectors and testers for electrical manufacturing companies, power station operators, maintenance technician with power companies and sales/service personnel in allied industries.

Some courses and labs may be offered at only one campus.
Electronic Engineering Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley

This program prepares students to function as assistants to professional engineers, scientists and senior technicians in research, development, manufacturing, testing, installation or maintenance of a variety of products. Students acquire skills in preparing and interpreting engineering drawings and sketches, selecting, compiling and using technical information, analyzing and interpreting information obtained from precision measuring and recording instruments; assembling and testing electronic components and writing reports through class work and practical experience in electronic engineering technology laboratories. This program provides students with a background in electronics rather than power equipment.

Persons interested in this program should be proficient in physics and math. They also should have an interest in building and repairing electrical and mechanical devices.

Graduates are qualified for positions as engineering assistants, laboratory technicians, sales and service representatives and office positions requiring a technical electronic background.

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

II. Area of Concentration

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EE:130</td>
<td>Electric Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>EE:131</td>
<td>Electric Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>EE:132</td>
<td>Electronic Devices</td>
<td>5</td>
</tr>
<tr>
<td>EE:207</td>
<td>Industrial Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>EE:233</td>
<td>Digital Logic</td>
<td>4</td>
</tr>
<tr>
<td>EE:240</td>
<td>Electrical Machines</td>
<td>4</td>
</tr>
<tr>
<td>EE:241</td>
<td>Transmission and Distribution of Power</td>
<td>3</td>
</tr>
<tr>
<td>EE:242</td>
<td>Introduction to Microprocessors</td>
<td>3</td>
</tr>
<tr>
<td>EE:260</td>
<td>Electronic Project Design and Fabrication</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total | 69 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

Electronics: Microprocessors

CERTIFICATE OF SPECIALIZATION
Florissant Valley

This program provides students with the skills and knowledge to enter this specialized field and upgrade existing skills of professional engineers and technicians already in the field. Microprocessors, an extension of electronic technology, are designed into electronic equipment and simplify the design process. Students receive training in a special lab equipped microprocessor trainers and laboratory equipment.
Persons interested in this program should have knowledge and experience in personal and small computer systems.

Graduates are qualified for positions in research, development, manufacturing, testing, installation and maintenance of microprocessors. These positions are found in the electronics, automotive, aircraft, food processing and printing industries.

**Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE:233</td>
<td>Digital Logic .................................. 4</td>
</tr>
<tr>
<td>EE:242</td>
<td>Introduction to Microprocessors ............... 3</td>
</tr>
<tr>
<td>EE:244</td>
<td>Microprocessor Applications ................... 3</td>
</tr>
<tr>
<td>EE:203</td>
<td>Operating Systems ............................ 3</td>
</tr>
<tr>
<td>GE:101</td>
<td>Technical Computer Programming ................ 3</td>
</tr>
</tbody>
</table>

**Program total ................16 credits**

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**Emergency Medical Technology**

**CERTIFICATE OF PROFICIENCY**

**Florissant Valley and Forest Park**

This program prepares students for positions as emergency medical technicians. Students learn to perform basic life support and some advanced procedures in emergency situations. EMT’s are skilled in patient assessment and recognition of diagnostic signs and symptoms of major injuries and illnesses. They also learn to use ambulance, rescue vehicle and hospital emergency room equipment.

Persons interested in this program should have maturity in dealing with others as well as co-workers. They should have manual dexterity and physical coordination for carrying, lifting, extricating, climbing, hoisting and other activities. They also should be able to give as well as receive written and verbal instructions and have good vision and visual color discrimination for examining patients to determine diagnostic signs requiring immediate treatment.

Graduates are eligible to sit for state and national licensing boards.

**Course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:100</td>
<td>Career English (or) .......................... 3</td>
</tr>
<tr>
<td>ENG:101</td>
<td>College Composition I ........................ 3</td>
</tr>
<tr>
<td>ENG:102</td>
<td>College Composition II (or) ................... 3</td>
</tr>
<tr>
<td>ENG:103</td>
<td>Report Writing ................................ 3</td>
</tr>
<tr>
<td>BIO:207</td>
<td>Anatomy and Physiology I ...................... 4</td>
</tr>
<tr>
<td>BIO:208</td>
<td>Anatomy and Physiology II ..................... 4</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Science or Mathematics requirement ........... 3-4</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Social Science elective ........................ 3</td>
</tr>
<tr>
<td>EMT:120</td>
<td>Internship in Emergency Medical Technology .. 6</td>
</tr>
<tr>
<td>EMT:121</td>
<td>Emergency Care Principles and Techniques ...... 8</td>
</tr>
</tbody>
</table>

**Program total ..............34-35 credits**

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**CERTIFICATE OF SPECIALIZATION**

**Forest Park**

This certificate includes the courses required for entry-level EMT employment.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT:120 Internship in Emergency Medical Technology</td>
<td>6</td>
</tr>
<tr>
<td>EMT:121 Emergency Care Principles and Techniques</td>
<td>8</td>
</tr>
</tbody>
</table>

**Program total ................14 credits**

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**Entrepreneurship**

**CERTIFICATE OF SPECIALIZATION**

**Florissant Valley, Forest Park, Meramec**

This program addresses the needs of persons interested in owning a small business, as well as persons who desire additional training to enhance ongoing businesses. The courses are designed to be informational in nature, providing students with hands-on experience with new technologies.

**Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:100 Applied Accounting (or)</td>
<td></td>
</tr>
<tr>
<td>ACC:120 Computer Accounting Applications for Business</td>
<td></td>
</tr>
<tr>
<td>BUS:217 Basic Law for Small Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS:101 Small Business Management (or)</td>
<td></td>
</tr>
<tr>
<td>BUS:116 Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>BUS:218 Financial Aspects of Small Business</td>
<td>3</td>
</tr>
<tr>
<td>MKT:203 Principles of Marketing*</td>
<td>3</td>
</tr>
<tr>
<td>MKT:219 E-Commerce: Strategies (or)</td>
<td></td>
</tr>
<tr>
<td>MGT:204 Business Organization and Management*</td>
<td>3</td>
</tr>
</tbody>
</table>

**NOTE:** It is recommended that students enroll in the Business Simulation Section for at least one of these courses.

**Program total ................18 credits**

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**Fire Protection Technology**

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

**Forest Park**

This program is designed to upgrade the skills of persons currently employed in the field. Students receive a thorough knowledge of effective fire fighting techniques and the ability to use equipment appropriate to extinguish all types of fires. They become familiar with inspection techniques, municipal safety codes and ordinances, insurance regulations, alarm systems, hydraulics and structures.

All courses are taught identically on two successive evenings to accommodate rotating schedules of working fire fighters. Required liberal arts courses may be taken day or evening, but are offered on a rotating basis in the evenings only as listed in the long-range schedule available from the department.
Persons interested in this program should be mechanically inclined and have good coordination and vision. Stamina and agility are also important. Fire fighters should have a willingness to serve the public, be capable of exerting maximum effort under discouraging conditions, be persistent, and tenacious, and be able to work in a team and to improvise in problem solving.

I. Career General Education 21 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG:101</td>
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</tr>
<tr>
<td>ENG:103</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>3</td>
</tr>
<tr>
<td>MTH:124</td>
<td>3</td>
</tr>
<tr>
<td>PSI:101</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>3</td>
</tr>
<tr>
<td>SOC:101</td>
<td>3</td>
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</tbody>
</table>

II. Physical Education Activity 2 credits

III. Area of Concentration 41 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHM:114</td>
<td>3</td>
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<tr>
<td>FIR:100</td>
<td>2</td>
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<td>FIR:102</td>
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<tr>
<td>FIR:105</td>
<td>3</td>
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<tr>
<td>FIR:106</td>
<td>3</td>
</tr>
<tr>
<td>FIR:110</td>
<td>3</td>
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<td>FIR:202</td>
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<td>FIR:204</td>
<td>3</td>
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<td>FIR:205</td>
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<td>FIR:207</td>
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<td>FIR:208</td>
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<td>FIR:210</td>
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<tr>
<td>IS:103</td>
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<tr>
<td>IS:151</td>
<td>3-4</td>
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</tbody>
</table>

Program total 64 credits

CERTIFICATE OF PROFICIENCY

Forest Park

This program is designed to upgrade the skills of persons currently employed in the field. Students receive a thorough knowledge of effective fire fighting techniques and the ability to use equipment appropriate to extinguish all types of fires. They become familiar with inspection techniques, municipal safety codes and ordinances, insurance regulations, alarm systems, hydraulics and structures.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FIR:xxx</td>
<td>18</td>
</tr>
<tr>
<td>MTH:124</td>
<td>3</td>
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<td>PSI:101</td>
<td>3</td>
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<tr>
<td>CHM:114</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>9</td>
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</tbody>
</table>

Program total 33 credits

Fire Protection Technology: Safety Option

ASSOCIATE IN APPLIED SCIENCE DEGREE

Florissant Valley

This program is offered for individuals currently working in the safety field in industrial plants, insurance companies or firms selling fire protection equipment. It is also offered for persons interested in entering this area of employment. Courses may be taken as a complete program or as needed according to individual interest. Technical courses are offered in the evening only. Academic courses are offered day and evening.

I. Career General Education 24 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CHM:114</td>
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<tr>
<td>COM:101</td>
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<tr>
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<td>ENG:101</td>
<td>3</td>
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<td>ENG:102</td>
<td>3</td>
</tr>
<tr>
<td>ENG:103</td>
<td>3</td>
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<tr>
<td>MTH:124</td>
<td>3</td>
</tr>
<tr>
<td>PSI:101</td>
<td>3</td>
</tr>
<tr>
<td>SOC:101</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>3</td>
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</table>

II. Physical Education Activity 2 credits

III. Area of Concentration 36 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>FIR:102</td>
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<td>SAF:202</td>
<td>3</td>
</tr>
<tr>
<td>SAF:203</td>
<td>3</td>
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</tbody>
</table>

Program total 65 credits

CERTIFICATE OF PROFICIENCY

Florissant Valley

This program is designed for the individual working in industry or business who needs to gain some specialized knowledge in the field of industrial safety. Safety-related elective courses may be selected based on the individual’s present or anticipated job requirements.
Food Distribution Technology

CERTIFICATE OF PROFICIENCY
Meramec
This program focuses on supermarket management and on the development of leadership in food distribution management.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:100 Applied Accounting (or)</td>
<td></td>
</tr>
<tr>
<td>ACC:110 Financial Accounting I</td>
<td>3-4</td>
</tr>
<tr>
<td>BUS:103 Business Mathematics (or)</td>
<td></td>
</tr>
<tr>
<td>Mathematics 100 level or higher</td>
<td>3</td>
</tr>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>ENG:100 Career English (or)</td>
<td></td>
</tr>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MGT:101 Introduction to Supervision</td>
<td></td>
</tr>
<tr>
<td>MGT:104 Introduction to Supermarket Management</td>
<td>3</td>
</tr>
<tr>
<td>MKT:101 Advertising Theory</td>
<td>3</td>
</tr>
<tr>
<td>MKT:103 Consumer Behavior (or)</td>
<td></td>
</tr>
<tr>
<td>In-Store Training</td>
<td>3</td>
</tr>
<tr>
<td>MKT:203 Principles of Marketing</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>Select three credits from Business, Social Science or In-Store Training</td>
<td></td>
</tr>
</tbody>
</table>

Program total ..................33 credits

Funeral Directing

CERTIFICATE OF PROFICIENCY
Forest Park
This program prepares the student for licensure as a funeral director and entry-level employment in a Missouri funeral establishment, as well as other states with similar licensing requirements. Funeral Directing courses are available to students who have been admitted to the Funeral Directing Program and/or have departmental approval. The Funeral Directing curriculum consists of two semesters of courses that are offered in the evening at the Forest Park campus, as well as Distance Learning via the College's Internet website. The Certificate focuses solely on funeral directing, with no courses in embalming. It is a non-technical certificate, geared toward the business and public relations aspects of operating a funeral home. Graduates are eligible to take the licensing examinations for Missouri (or for any other state with similar licensing requirements.)

Funeral directors use counseling skills to assist families in coping with grief, adjusting to new situations, and making appropriate funeral arrangements. The successful funeral director possesses emotional stability, the desire to serve others, and good physical health to withstand the irregular working hours and the obvious stresses of the job. Good grooming habits are essential, as the funeral director must reflect the high standards of care the families will receive at the funeral home. High school courses in public speaking, accounting, and business would be helpful for students interested in this program.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:100 Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>COM:101 Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>FD:101 Funeral Management/Merchandising</td>
<td>6</td>
</tr>
<tr>
<td>FD:102 Funeral Service Psychology</td>
<td></td>
</tr>
<tr>
<td>FD:103 History of Funeral Service</td>
<td>3</td>
</tr>
<tr>
<td>FD:104 Funeral Service Law</td>
<td>3</td>
</tr>
<tr>
<td>IS:103 Information Systems for Business</td>
<td>3</td>
</tr>
<tr>
<td>SOC:101 Introduction to Sociology</td>
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</tbody>
</table>

Program total ..................27 credits

Funeral Service Education

ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park
This program prepares students for entry-level employment in funeral homes. Prior to enrolling in the College, each applicant must meet the pre-matriculation requirements of the state in which the student intends to practice. Students gain practical experience in the various techniques of embalming through the use of modern facilities at local funeral homes as well as in the classroom.

Persons interested in funeral service education should possess emotional stability, the desire to serve others and be in good physical health to withstand the irregular working hours and stresses of the job. Good grooming habits are important.

In most states, graduates are required to work as interns under the supervision of a licensed funeral director or embalmer for a specified period of time. Graduates of the program are qualified for positions as funeral directors and/or embalmers.

I. Career General Education 22 credits
<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO:103 Problems in Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>BIO:203 General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>COM:101 Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102 College Composition II (or)</td>
<td></td>
</tr>
<tr>
<td>ENG:103 Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>HST:xxx Missouri State Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SOC:101 Introduction to Sociology</td>
<td>3</td>
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</tbody>
</table>

II. Physical Education Activity 2 credits

III. Area of Concentration 41 credits
<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC:100 Applied Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS:101 Small Business Management (or)</td>
<td>3</td>
</tr>
<tr>
<td>BUS:104 Introduction to Business</td>
<td>3</td>
</tr>
</tbody>
</table>
Gerontology

CERTIFICATE OF SPECIALIZATION
Forest Park
This program prepares students for entry-level work in geriatrics and other services directed to senior citizens. Students acquire skills in one-on-one relationships, group work and activities for older persons.

Persons interested in this program should be responsible, mature, patient and have a genuine concern and interest in the field of geriatrics. They also should possess effective verbal and written communications skills.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMS:110 Introduction to Gerontology</td>
<td>3</td>
</tr>
<tr>
<td>HMS:201 Human Services Practicum I</td>
<td>3</td>
</tr>
<tr>
<td>HMS:203 Human Services Practicum Seminar I</td>
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</tr>
<tr>
<td>PSY:213 Psychology of Aging</td>
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<tr>
<td>SOC:201 Social Aspects of Aging</td>
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</table>

Program total .................... 15 credits

Graphic Communications

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley, Forest Park and Meramec

Students gain graphic design fundamentals using basic graphic design materials to learn such skills as lettering, drawing for graphics layout, advertising design, illustration and computer graphics.

Graduates of the graphics communications program will have the creative and conceptual skills necessary to, and be ready for, entry-level employment and beyond in a variety of visual communication settings. Skill areas include paste-up artists, designers, illustrators, computer artists, layout artists, art directors, animators, display artists, cartoonists, and package designers.

I. Career General Education  18 credits

II. Physical Education Activity  2 credits

III. Area of Concentration  50-52 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ART:106 Dynamics of Grief</td>
<td>3</td>
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<tr>
<td>ART:200 Restorative Art</td>
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<tr>
<td>ART:201 Embalming</td>
<td>3</td>
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<tr>
<td>ART:202 Funeral Management</td>
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<tr>
<td>ART:205 Funeral Service Seminar</td>
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<tr>
<td>ART:206 Embalming Practicum I</td>
<td>2</td>
</tr>
<tr>
<td>ART:207 Embalming Practicum II</td>
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<tr>
<td>ART:208 Pathology for Funeral Service</td>
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<td>IS:103 Information Systems for Business</td>
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Program total .................... .65 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ART:133 Graphic Design I</td>
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<tr>
<td>ART:134 Graphic Design II</td>
<td>3</td>
</tr>
<tr>
<td>ART:138 Drawing for Graphics I</td>
<td>2</td>
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<tr>
<td>ART:245 Portfolio Design and Professional Practices</td>
<td>2</td>
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Illustration Option

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ART:243 Figure Illustration (or)</td>
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<tr>
<td>ART:112 Figure Drawing II</td>
<td>2-3</td>
</tr>
<tr>
<td>ART:135 Graphic Production I</td>
<td>2</td>
</tr>
<tr>
<td>ART:238 Drawing for Graphics II</td>
<td>2</td>
</tr>
<tr>
<td>ART:242 Drawing for Graphics III</td>
<td>2</td>
</tr>
<tr>
<td>ART:239 Illustration I</td>
<td>3</td>
</tr>
<tr>
<td>ART:240 Illustration II</td>
<td>3</td>
</tr>
<tr>
<td>AT:242 History of Graphic Communications (or)</td>
<td>3</td>
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<tr>
<td>AT:246 Advanced Computer Art Applications</td>
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<tr>
<td>Approved Electives</td>
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</table>

Illustration Option total ... 27-29 credits

Animation Option

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ART:243 Figure Illustration (or)</td>
<td>3</td>
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<tr>
<td>ART:112 Figure Drawing II</td>
<td>2-3</td>
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<tr>
<td>ART:238 Drawing for Graphics II</td>
<td>2</td>
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<tr>
<td>ART:239 Illustration I</td>
<td>3</td>
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<tr>
<td>ART:240 Illustration II</td>
<td>3</td>
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<tr>
<td>AT:233 Storyboarding/Animatics</td>
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<tr>
<td>AT:234 Computer Animation I</td>
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<td>Approved Electives</td>
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Animation Option total .......... 27-29 credits

Graphic Design Option

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
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<tr>
<td>ART:236 Typography</td>
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</tr>
<tr>
<td>ART:233 Graphic Design III</td>
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<tr>
<td>ART:234 Graphic Design IV</td>
<td>3</td>
</tr>
<tr>
<td>ART:135 Graphic Production I</td>
<td>2</td>
</tr>
</tbody>
</table>
ART:235 Graphic Production II .......................... 2
ART:242 History of Graphic Communications (or)
ART:246 Advanced Computer Art Applications   .... 3
Approved Electives ......................................10-12

**Graphic Design Option total ........... 27-29 credits**

**New Media Option**
ART:275 Photo Imaging I: Photoshop .................... 3
ART/AT:xxx Photography Elective ........................ 3
AT:135 Communication and Design for the WWW I .... 3
Approved Electives ......................................18-20 credits

**New Media Option total ........... 27-29 credits**

**Program total .................. 70-72 credits**

**Horticulture**

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

**Meramec**

Students learn both the science and the art of horticulture through a combination of classroom theory with laboratory practice and on-the-job training. Courses in soils, plant diseases, turfgrass management and cooperative horticulture are integral parts of the program. Students receive their training in the College's greenhouses, outdoor nursery facilities, laboratories and lath house. Students should enjoy working with plants and observing the growth process.

Graduates may specialize in nursery management, interior landscape design and maintenance, greenhouse management, horticulture retail sales, commercial grounds management and urban forestry. Entry-level jobs are available with state and city park departments, nurseries, landscape contracting firms, golf courses and retail sales.

**I. Career General Education .......................... 19 credits**

ENG:100 Career English (or) .............................3
ENG:101 College Composition I ............................3
COM:101 Oral Communication I ........................... 3
CHM:109 Chemistry for Environmental Careers I ........3
MTH:140 Intermediate Algebra ............................3
PSY:200 General Psychology .............................. 3
XXX:xxx Missouri State Requirement .....................3

**II. Physical Education Activity ........................2 credits**

**III. Area of Concentration ............................. 39-40 credits**

Select 6-7 credits from:
ACC:100 Applied Accounting (or)
ACC:110 Financial Accounting ........................... 3-4
BLW:101 Business Law I ..................................3
BUS:101 Small Business Management .....................3
MGT:101 Introduction to Supervision .....................3
MKT:104 Principles of Selling ............................ 3

**Horticulture Core .......................... 24 credits**

HRT:101 Introductory Horticulture (or)
BIO:124 General Botany I .................................4
HRT:102 Soils ..............................................3
HRT:105 Cooperative Horticulture ......................... 3
HRT:206 Ornamental Plants – Trees and Vines ........... 3
HRT:207 Ornamental Plants – Shrubs and Evergreens ....3
HRT:230 Ornamental Plants – Herbaceous Perennials ........3
HRT:214 Grounds Management ............................ 3
HRT:227 Plant Pest Management ............................ 4

**Horticulture Options .................................. 9 credits**

Select one option:

**Turfgrass Management**
HRT:201 Turfgrass Management ............................3
HRT:240 Golf Course Management ...........................3
HRT:220 Landscape Irrigation ...............................3

**Landscape Design**
HRT:104 Landscape Design I ...............................3
HRT:217 Landscape Design II ................................3
HRT:218 Landscape Design III ................................3

**Plant Production and Marketing**
HRT:103 Plant Propagation .................................3
HRT:205 Nursery and Garden Center Practices ..........3
HRT:241 Greenhouse Management ...........................3

**Landscape Management**
HRT:201 Turfgrass Management ............................3
HRT:220 Landscape Irrigation ...............................3
HRT:242 Urban Tree Management ...........................3

**IV. Horticulture Electives ............................. 6 credits**

HRT:245 Special Applications in Landscape Design 3
HRT:235 Annuals and Ornamental Grasses ...............3

Credits from options ...................................... 3-6

**Program total .................. 66-67 credits**

**CERTIFICATE OF PROFICIENCY**

**Meramec**

**Horticulture Core .......................... 24 credits**

HRT:101 Introductory Horticulture (or)
BIO:124 General Botany I .................................4
HRT:102 Soils ..............................................3
HRT:105 Cooperative Horticulture ......................... 3
HRT:206 Ornamental Plants – Trees and Vines ........... 3
HRT:207 Ornamental Plants – Shrubs and Evergreens ....3
HRT:230 Ornamental Plants – Herbaceous Perennials ........3
HRT:214 Grounds Management ............................ 3
HRT:227 Plant Pest Management ............................ 4
Horticulture Options  
Select one option

Turfgrass Management
HRT:201 Turfgrass Management ........................................ 3
HRT:240 Golf Course Management ...................................... 3
HRT:220 Landscape Irrigation .......................................... 3
(  

Landscape Design
HRT:104 Landscape Design I ............................................ 3
HRT:217 Landscape Design II ............................................ 3
HRT:218 Landscape Design III .......................................... 3
(  

Plant Production and Marketing
HRT:103 Plant Propagation .............................................. 3
HRT:205 Nursery and Garden Center Practices .................... 3
HRT:241 Greenhouse Management ...................................... 3
(  

Program total . . . . . . . . . . . . . . 9 credits

Horticulture Electives  6 Credits
Select 6 credits from

HRT:245 Special Applications in Landscape Design .................. 3
HRT:235 Annuals and Ornamental Grasses .............................. 3
Credits from options ................................................. 3-6

Program total . . . . . . . . . . . . . . 36 Credits

CERTIFICATE OF SPECIALIZATION
Meramec
Students learn both the science and the art of horticulture through a combination of classroom theory with laboratory practice and on-the-job training. Courses in soils, plant diseases, turfgrass management, and cooperative horticulture are integral parts of the program. Students receive their training in the College’s greenhouses, outdoor nursery facilities, laboratories and lath house. Students should enjoy working with plants and observing the growth process.

Entry-level jobs are available with state and city park departments, nurseries, landscape contracting firms, golf courses and retail sales.

Courses  Credits
BIO:124 General Botany I (or) ........................................... 4
HRT:101 Introductory Horticulture ..................................... 4
HRT:125 Plant Identification: Trees .................................... 1
HRT:126 Plant Identification: Shrubs and Vines .................... 1
HRT:127 Soil Management ................................................ 1
HRT:128 Turfgrass Culture ............................................ 1
HRT:129 Propagation Principles and Practices ....................... 1
HRT:130 Principles of Landscape Design .............................. 1
HRT:132 Plant Pest Identification and Management ................ 1
HRT:133 Landscape Management ...................................... 1

Program total . . . . . . . . . . . . . . 12 credits

Hospitality Studies
ASSOCIATE IN APPLIED SCIENCE DEGREE

Forest Park
The Hospitality Studies Program prepares students for careers in the areas of culinary arts and hotel and restaurant management.

I. Career General Education  18 credits
ENG:101 College Composition I ........................................ 3
COM:101 Oral Communication ........................................ 3
MTH:108 Elementary Applied Math or higher ...................... 3
PSY:101 Physical Science Lecture .................................. 3
XXX:xxx Missouri State Requirement .............................. 3

II. Physical Education Activity  2 credits
Culinary Arts Option
The Culinary Arts Option is designed to meet current and future needs for training food service and food service managerial persons to assume leadership roles in the industry. The curriculum covers food preparation, culinary arts, and culinary management, addressing the business, academic, and technical aspects of the industry. The curriculum offers a wide range of courses, specifically meeting the requirements of the hotels, restaurants and clubs in this field. The program features a heavy emphasis on food preparation from basic to advanced, combined with courses that offer a solid background in the managerial aspects. This prepares graduates to enter the industry in supervisory positions.

III. Area of Concentration  13 credits
HRM:135 Food Preparation Theory .................................. 3
HRM:116 Safety and Sanitation ....................................... 3
HRM:134 Introduction to the Hospitality Industry .............. 3
HRM:201 Problems of Hospitality Management ................. 3
HRM:205 Operational Cost Control ................................. 3

Culinary Arts Courses  36 credits
HRM:140 Food Preparation Practical I ............................. 3
HRM:145 Food Preparation Practical II ............................ 3
HRM:112 Purchasing .................................................... 3
HRM:119 Garde Manger ................................................. 2
HRM:122 Baking ......................................................... 3
HRM:123 Pastry .......................................................... 3
HRM:128 Nutrition ....................................................... 3
HRM:129 Global Cuisine ............................................... 2
HRM:225 Nutritional Cooking ......................................... 2
HRM:230 American Regional Cuisine ............................... 2
HRM:260 Restaurant Operations ..................................... 6

Select at least four credits from:
ACC:100 Applied Accounting ......................................... 3
HRM:250 Food Service Design and Layout ......................... 3
HRM:202 Hospitality Law .............................................. 3
HRM:245 Salon Law ..................................................... 3
HRM:235 Ice Carving ................................................... 2
Hospitality Studies:
Baking and Pastry Arts

CERTIFICATE OF PROFICIENCY
Forest Park

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:108 Elementary Applied Math</td>
<td>3</td>
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<td>HRM:110 Quantity Food Preparation I</td>
<td>6</td>
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<tr>
<td>HRM:116 Safety and Sanitation</td>
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<tr>
<td>HRM:122 Baking</td>
<td>3</td>
</tr>
<tr>
<td>HRM:123 Pastry</td>
<td>3</td>
</tr>
<tr>
<td>HRM:128 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HRM:215 Chocolates and Confections</td>
<td>3</td>
</tr>
<tr>
<td>HRM:216 Confectionary Art</td>
<td>3</td>
</tr>
<tr>
<td>HRM:217 Nutritional Baking and Pastry</td>
<td>3</td>
</tr>
<tr>
<td>HRM:218 Specialty Breads and Rolls</td>
<td>3</td>
</tr>
<tr>
<td>HRM:219 Specialty Cakes</td>
<td>3</td>
</tr>
<tr>
<td>HRM:220 Decorated and Wedding Cakes</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total ............. 70 credits

Hospitality Studies:
Hotel Management

CERTIFICATE OF PROFICIENCY
Forest Park

This program prepares students for entry level positions within the hotel industry. Students learn the key areas of a hotel including front office management, guest services, and facility management. Course work would include hospitality law, marketing, safety and sanitation, cost control and supervision.

General Education 9 credits
<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
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<tr>
<td>COM:101 Oral Communication I</td>
<td>3</td>
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<tr>
<td>MTH:108 Elementary Applied Math</td>
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</table>

Area of Concentration 30 credits
<table>
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<tbody>
<tr>
<td>ACC:100 Applied Accounting</td>
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</tr>
<tr>
<td>HRM:135 Food Preparation Theory</td>
<td>3</td>
</tr>
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<td>HRM:116 Safety and Sanitation</td>
<td>1</td>
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<tr>
<td>HRM:134 Introduction to Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td>HRM:201 Problems of Hospitality Management</td>
<td>3</td>
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<tr>
<td>HRM:202 Hospitality Law</td>
<td>3</td>
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<tr>
<td>HRM:205 Operational Cost Control</td>
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<tr>
<td>HRM:216 Confectionary Art</td>
<td>3</td>
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<td>HRM:217 Nutritional Baking and Pastry</td>
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<td>HRM:218 Specialty Breads and Rolls</td>
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<td>HRM:219 Specialty Cakes</td>
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<td>HRM:220 Decorated and Wedding Cakes</td>
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<tr>
<td>HRM:221 Hotel Facilities Management</td>
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</table>

Program total ............. 70 credits

III. Area of Concentration 19 credits

Hotel and Restaurant Management Courses 28 credits

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HRM:141 Workplace Learning I</td>
<td>1</td>
</tr>
<tr>
<td>HRM:221 Workplace Learning II</td>
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</tr>
<tr>
<td>HRM:241 Workplace Learning III</td>
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<tr>
<td>HRM:214 Hospitality Human Resources Management</td>
<td>3</td>
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<tr>
<td>HRM:209 Hospitality Sales and Marketing</td>
<td>3</td>
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<tr>
<td>HRM:210 Guest Services Management</td>
<td>3</td>
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<tr>
<td>HRM:211 Hotel Facilities Management</td>
<td>3</td>
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<tr>
<td>IS:123 Introduction to Windows</td>
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</table>

Select at least 6 credits from
<table>
<thead>
<tr>
<th>Courses</th>
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<tbody>
<tr>
<td>HRM:112 Purchasing</td>
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<td>HRM:250 Foodservice Design and Layout</td>
<td>3</td>
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<tr>
<td>HRM:212 Bar and Beverage Management</td>
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<tr>
<td>TUR:201 Convention and Meeting Planning</td>
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Select at least 6 credits from
<table>
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<tr>
<th>Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HUM:112 Creative Thinking</td>
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<tr>
<td>COM:107 Public Speaking</td>
<td>3</td>
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<td>COM:110 Organizational Communication</td>
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<tr>
<td>SOC:103 Human Behavior at Work and in Business</td>
<td>3</td>
</tr>
<tr>
<td>IS:151 Microcomputer Applications in Business</td>
<td>4</td>
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</table>

Program total ............. 69 credits

Hotel and Restaurant Management Option
The Hotel and Restaurant Management Option prepares students for middle management positions in the hospitality industry. The graduate will be prepared to enter the industry at a supervisory level and to perform management functions and duties. The program is a combined curriculum for academic training and practical application (structured experience in hotels and food service) courses leading to an AAS Degree in Hospitality Studies. The graduate will be prepared for employment in all types of operations in the hospitality industry.

<table>
<thead>
<tr>
<th>Courses</th>
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<tbody>
<tr>
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Program total ............. 69 credits

Hotel and Restaurant Management Courses 28 credits

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<tr>
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<tr>
<td>HRM:221 Workplace Learning II</td>
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</tr>
<tr>
<td>HRM:241 Workplace Learning III</td>
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</tr>
<tr>
<td>HRM:214 Hospitality Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>HRM:209 Hospitality Sales and Marketing</td>
<td>3</td>
</tr>
<tr>
<td>HRM:210 Guest Services Management</td>
<td>3</td>
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<tr>
<td>HRM:211 Hotel Facilities Management</td>
<td>3</td>
</tr>
<tr>
<td>IS:123 Introduction to Windows</td>
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Select at least 6 credits from
<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
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<tr>
<td>HRM:250 Foodservice Design and Layout</td>
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<tr>
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Select at least 6 credits from
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<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>HUM:112 Creative Thinking</td>
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</tr>
<tr>
<td>COM:107 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>COM:110 Organizational Communication</td>
<td>3</td>
</tr>
<tr>
<td>SOC:103 Human Behavior at Work and in Business</td>
<td>3</td>
</tr>
<tr>
<td>IS:151 Microcomputer Applications in Business</td>
<td>4</td>
</tr>
</tbody>
</table>

Program total ............. 70 credits
HOSPITALITY STUDIES:  
RESTAURANT MANAGEMENT  

CERTIFICATE OF PROFICIENCY  
Forest Park  
This program prepares students for entry level positions within the restaurant industry. Students learn the key areas of restaurant management, bar and beverage management, and guest service management. Course work would include hospitality law, food preparation, safety and sanitation, cost control and supervision.

General Education  
9 credits  
ENG:101 College Composition I 3  
COM:101 Oral Communication I 3  
MTH:108 Elementary Applied Math 3

Area of Concentration  
30 credits  
ACC:100 Applied Accounting 3  
HRM:135 Food Preparation Theory 3  
HRM:116 Safety and Sanitation 1  
HRM:134 Introduction to Hospitality Industry 3  
HRM:141 Workplace Learning I 1  
HRM:221 Workplace Learning II 3  
HRM:201 Problems of Hospitality Management 3  
HRM:202 Hospitality Law 3  
HRM:205 Operational Cost Control 3  
HRM:210 Guest Services Management 3

Select at least 6 credits from  
HRM:214 Hospitality Human Resources Management 3  
HRM:112 Purchasing 3  
HRM:250 Foodservice Design and Layout 3  
HRM:209 Hospitality Sales and Marketing 3  
HRM:211 Hotel Facilities Management 3  
HRM:212 Bar and Beverage Management 3  
TUR:201 Convention and Meeting Planning 1  
IS:123 Introduction to Windows 4

Program total 39 credits

HUMAN SERVICES  
ASSOCIATE IN APPLIED SCIENCE DEGREE  
Floissant Valley, Forest Park and Meramec  
This program provides students with a basic social science framework and perspective for pursuing a career in human services. The program also provides currently employed human service workers the opportunity to upgrade their skills and abilities. Students are taught a specific body of theoretical knowledge and practice skills.

They are introduced to human service organizations and resources designed to meet human needs. Students learn to identify various helping strategies and techniques for working with people.

Persons interested in this program should enjoy working with people. They should possess good communications and problem solving skills and have a positive attitude about themselves and others.

Graduates are qualified for positions as alcoholism/drug abuse assistant to counselors, directors of GED (General Education Development) tutoring programs, house parents, nursing home activity therapy assistants, case workers, corrections officers, vocational rehabilitation workers, teacher's aides for exceptional children and personnel assistants. These positions are available in the areas of social welfare, mental health, juvenile and adult correctional programs, geriatrics, education, counseling and related fields in business, industry and health care.

I. Career General Education 30 credits  
ENG:101 College Composition I 3  
ENG:102 College Composition II (or)  
ENG:103 Report Writing 3  
SOC:101 Introduction to Sociology 3  
XXX:xxx Missouri State Requirement 3  
XXX:xxx Humanities Requirements 6  
XXX:xxx Science/Mathematics Requirements (MTH:100 or above; laboratory science course recommended) 6  
PSY:200 General Psychology 3  
PSY:205 Human Growth and Development 3

II. Physical Education Activity 2 credits

III. Area of Concentration 24 credits  
HMS:100 Introduction to Human Services 3  
HMS:101 Human Services: Theories and Skills 3  
HMS:102 Human Services: Policy and Politics 3  
HMS:201 Human Services Practicum I 3  
HMS:202 Human Services Practicum II 3  
HMS:203 Human Services Practicum Seminar I 3  
HMS:204 Human Services Practicum Seminar II 3  
Select one course from  
HMS:111 Group Practice in Human Services  
SOC:100 Human Relations  
SOC:103 Human Behavior at Work and in Business 3

IV. Electives 8 credits  
Recommended electives include courses with prefix HMS, SOC, PSY, ECE, CRJ as well as computer, business and personal development courses related to the human services field.

Program total 64 credits
Human Services: Corrections Option

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley
This program prepares students to upgrade or develop new skills as corrections officers in jails, workhouses, halfway houses and other correctional programs and institutions.

Persons interested in this program should have supervisory and leadership skills, a desire to teach or instruct adults or disadvantaged youths and a knowledge and understanding of customs, language patterns and problems of institutionalized populations.

Graduates are qualified for positions as corrections officers, rehabilitation counselors, youth services specialists, bond investigators with probation and parole, alcoholism/drug abuse counselors, group home workers and security officers.

I. Career General Education 27-29 credits
   ENG:101 College Composition I .................. 3
   ENG:102 College Composition II (or) ............ 3
   ENG:103 Report Writing ........................... 3
   XXX:xxx Missouri State Requirement ........... 3
   SOC:100 Human Relations (or) .................. 3
   SOC:103 Human Behavior at Work and in Business 3
   SOC:101 Introduction to Sociology ................ 3
   PSY:200 General Psychology ...................... 3
   PSY:208 Abnormal Psychology........................ 3
   Science/Mathematics ............................. 6-8

II. Physical Education Activity 2 credits

III. Area of Concentration 33 credits
   CRJ:122 Introduction to Criminal Justice .......... 3
   CRJ:101 American Correctional System ............ 3
   CRJ:102 Rehabilitation, Probation and Parole ...... 3
   CRJ:124 Criminal Law and Procedures .............. 3
   CRJ:123 Juvenile Justice ........................... 3
   HMS:100 Introduction to Human Services .......... 3
   HMS:101 Human Services: Theories and Skills ...... 3
   HMS:201 Human Services Practicum I ................. 3
   HMS:202 Human Services Practicum II ................ 3
   HMS:203 Human Services Practicum Seminar I ......... 3
   HMS:204 Human Services Practicum Seminar II ...... 3

IV. Electives 3 credits
   HMS:205 Crisis Intervention or elective

Program total .............65-67 credits

CERTIFICATE OF PROFICIENCY
Florissant Valley
This program prepares students to upgrade or develop new skills as corrections officers in jails, workhouses, halfway houses and other correctional programs and institutions.

Human Services: Disabilities Studies Option

ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park
This program provides students with a basic knowledge of persons with disabilities and a perspective of the service delivery model and the field of disabilities. Students entering the profession may want to work in entry level positions. Persons already working in the field of disabilities may want to upgrade their already existing skills. Persons with degrees in related fields may want to gain more specialized knowledge in the field.

Persons in this field should enjoy working with people and their challenges. They should possess good communication and problem solving skills and have a positive attitude about themselves and others.

Graduates may expect to work in the areas of special or regular education; supported living; day care centers; leisure and recreation programs; or any other inclusionary community setting.

I. Career General Education 30-31 credits
   ENG:101 College Composition I .................. 3
   ENG:102 College Composition II (or) ............ 3
   ENG:103 Report Writing ........................... 3
   SOC:101 Introduction to Sociology ................ 3
   PSY:200 General Psychology ...................... 3
   PSY:205 Human Growth and Development .......... 3
   XXX:xxx Humanities Electives ..................... 6
   XXX:xxx Science/Math Electives (Math 100 or above; lab science course recommended) ............. 6-7
   XXX:xxx Missouri State Requirement ............... 3

II. Physical Education Activity 2 credits

III. Area of Concentration 27 credits
   HMS:119 Introduction to the Field of Disabilities .... 3
   HMS:120 Team Building: Working with Care Givers ........................................... 3
   HMS:121 Working with Challenging Behaviors .......... 3
   HMS:122 Health Issues and Persons with Disabilities (or)
HMS:118 Aging and Disabilities .............................................3
HMS:201 Human Services Practicum I ................................3
HMS:202 Human Services Practicum II ................................3
HMS:203 Human Services Practicum Seminar I ..................3
HMS:204 Human Services Practicum Seminar II .................3

IV. Electives 6 credits
HMS:101 Human Services: Theory and Skills .....................3
HMS:110 Introduction to Gerontology .................................3
HMS:123 Inclusion in the Community ................................3
HMS:205 Crisis Intervention ..................................................3
HMS:112 Interviewing in the Helping Relationship .............3
IS:103 Information Systems for Business .........................3
PSY:208 Abnormal Psychology ...........................................3
SOC:100 Human Relations ................................................3

Program total ..................65-66 credits

Human Services: Disabilities
CERTIFICATE OF SPECIALIZATION
Forest Park
This program provides students with the knowledge and
skills to enter the disabilities field and upgrades the exist-
ing skills of persons already working in the field.

Courses Credits
HMS:119 Introduction to the Field of Disabilities .............3
HMS:120 Team Building: Working with Care Givers (or) ...
HMS:123 Inclusion in the Community ................................3
HMS:121 Working with Challenging Behaviors .................3
HMS:122 Health Issues and Persons with Disabilities (or) ...
HMS:118 Aging and Disabilities ........................................3
HMS:201 Human Services Practicum I .............................3
HMS:203 Human Services Practicum Seminar I ................3

Program total ..................18 credits

Note: Students who are currently working in the field of develop-
mental disabilities should take the two seminars HMS:203 and HMS:204
instead of HMS:201 and HMS:203.

Information Reporting Technology
ASSOCIATE IN APPLIED SCIENCE DEGREE
Mramec
This program prepares the student for entry-level positions in
judicial reporting or realtime captioning (CART: Communication
Access Realtime Translation). The entering student should have
keyboarding experience before attempting the skill of machine
shorthand. After taking a series of fundamental courses, the
student chooses between these options, which prepare the stu-
dent for the appropriate certification tests upon completion of
the program. Judicial reporters work in legal or corporate set-
tings. CART reporters provide captioning for broadcast or live
events. Employment opportunities are excellent in both areas.

I. Career General Education 18 credits
ENG:101 College Composition I ........................................3
XXX:xxx Humanities/Communications elective ................3
XXX:xxx Missouri State Requirement ...............................3
XXX:xxx Social/Behavioral science elective .....................3
BUS:103 Business Mathematics ........................................3
XXX:xxx Science/Mathematics elective .............................3

II. Physical Education Activity 2 credits

III. Area of Concentration 23 credits
IRT:121 Machine Shorthand I ...........................................3
IRT:122 Machine Shorthand II .........................................3
IRT:123 Machine Shorthand III .........................................3
IRT:124 Machine Shorthand IV .........................................3
IRT:138 Introduction to Computer-Aided Transcription .......2
IRT:140 Legal Terminology ..............................................3
IS:123 Introduction to Windows ........................................1
IS:136 Internet Fundamentals ...........................................1
IS:205 Medical Terminology ............................................4

Judicial Reporting Option: 26 credits
IRT:125 Machine Shorthand V ...........................................3
IRT:126 Machine Shorthand VI ..........................................3
IRT:127 Machine Shorthand VII .........................................3
IRT:128 Machine Shorthand VIII .......................................3
IRT:142 Editing Legal Documents .....................................3
IRT:156 Judicial Realtime Applications .............................3
IRT:166 Judicial Reporting Internship ...............................1
IRT:167 Colloquy ..........................................................2
IRT:101 Principles of Judicial Reporting I .........................3
IRT:201 Principles of Judicial Reporting II .......................2

Program total ..................69 credits

CART and Captioning Reporting Option: 25 credits
IRT:168 CART/Captioning Internship ...............................1
IRT:202 Broadcasting Captioning I ................................3
IRT:203 Broadcast Captioning II ........................................3
IRT:145 Research Techniques for Captioning ....................3
MCM:120 Introduction to Broadcasting .............................3
IRT:146 Realtime Applications for CART/Captioning ...3
IRT:150 Literary I ..........................................................3
IRT:250 Literary II ..........................................................3
IRT:251 Literary III ..........................................................3

Program total ..................68 credits
Information Reporting Technology: Judicial Reporting

CERTIFICATE OF PROFICIENCY

This program prepares the student to take the certification test in order to work in the field of judicial reporting, usually in a legal setting. Employment opportunities are excellent.

Program total ..................48 credits

Broadcast Captioning

CERTIFICATE OF SPECIALIZATION

This program provides students with both the theoretical and practical knowledge required to perform as entry level local area network technicians or administrators. Significant portions of the networking classes involve hands-on lab activity utilizing current computer networking equipment and software. The classes emphasize selection of hardware and software, physical planning, local and wide area network design, network optimization, and network management.

Program total ..................18 credits

Information Systems: Computer Network Specialist Option

ASSOCIATE IN APPLIED SCIENCE DEGREE

This program provides students with both the theoretical and practical knowledge required to perform as entry level local area network technicians or administrators. Significant portions of the networking classes involve hands-on lab activity utilizing current computer networking equipment and software. The classes emphasize selection of hardware and software, physical planning, local and wide area network design, network optimization, and network management.

I. Career General Education 19 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
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<tr>
<td>ENG:102 College Composition II</td>
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<tr>
<td>ENG:103 Report Writing</td>
<td></td>
</tr>
<tr>
<td>MTH:160 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>XXX:xxx Natural Science/Mathematics Elective</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx Missouri State Requirement</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx Social Science Elective or</td>
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</tr>
<tr>
<td>SOC:103 Human Behavior at Work and in Business</td>
<td>3</td>
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II. Physical Education Activity 2 credits

III. Area of Concentration 43-45 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
<td>3</td>
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<tr>
<td>IS:103 Information Systems for Business</td>
<td>3</td>
</tr>
<tr>
<td>IS:110 Programming Design and Development</td>
<td>3</td>
</tr>
<tr>
<td>IS:111 Programming in Basic (or)</td>
<td></td>
</tr>
<tr>
<td>IS:227 C Programming Language I (or)</td>
<td></td>
</tr>
<tr>
<td>IS:251 Introduction to Java</td>
<td>3</td>
</tr>
</tbody>
</table>
Information Systems:
Microcomputer Support Specialist Option

ASSOCIATE IN APPLIED SCIENCE DEGREE
Floissant Valley, Forest Park and Meramec

This program provides students with the technical skills necessary to perform application development tasks and to provide support to end users. Students are trained in an environment which emphasizes end-user facilitation of microcomputer resources. The microcomputer application classes are taught in a hands-on environment. Upon completion of this program students are prepared for positions such as user-support specialist or PC help desk specialist.

I. Career General Education 19 credits
   ENG:101 College Composition I ......................3
   ENG:102 College Composition II (or)
   ENG:103 Report Writing .............................3
   MTH:160 College Algebra ............................4
   COM:101 Oral Communication I ....................3
   XXX:xxx Missouri State Requirement ...............3
   Choose one of the following courses: ............3
   ECO:151 Principles of Macroeconomics
   PSY:200 General Psychology
   PSY:206 Social Psychology
   SOC:101 Introduction to Sociology
   SOC:103 Human Behavior at Work and Business

II. Physical Education Activity 2 credits

III. Area of Concentration 43 credits
    IS:101 Keyboarding .................................1
    BUS:104 Introduction to Business Administration ...3
    IS:103 Information Systems for Business ...............3

Choose 4-6 credit hours from the following list
   IS:129 HTML ........................................1
   IS:218 Network Internship ............................3
   IS:237 Computer System and Network Security ....3
   IS:238 Web Server Implementation ...................3
   IS:254 Advanced Microcomputer Operating Systems .3
   IS:264 Advanced UNIX System Administration I ....3
   IS:165 Microcomputer Applications-Microsoft Project ....................................................1

Program total ..............................64-66 credits

Information Systems: Office Information Coordinator Option

ASSOCIATE IN APPLIED SCIENCE DEGREE
Floissant Valley, Forest Park and Meramec

This program is designed to prepare students to be proficient in the use of office technology including current computer hardware, operating and application software, and traditional as well as state-of-the-art office equipment such as personal digital assistants, voice recognition technology, and scanners. Student in this program will become proficient at using microcomputer office applications and desktop computer systems. In addition to learning to use these skills in the workplace, they will learn to supervise and train others in their use. The courses provide students with both the theoretical and practical knowledge required to perform as productive office professionals.

I. Career General Education 19 credits
   ENG:101 College Composition I ......................3
   COM:101 Oral Communication I .......................3
   XXX:xxx Natural Science/Mathematics Elective ....3

   IS:110 Program Design and Development ............3
   IS:111 Programming in Basic .......................3
   IS:112 Software and Hardware Concepts ............3
   IS:123 Introduction to Windows .......................1
   IS:132 Windows—Intermediate Topics ...............1
   IS:124 Windows—Advanced Topics ...................1
   IS:130 Hardware and Software Support ............3
   IS:215 Introduction to Local Area Networks .......3
   IS:241 Systems Analysis and Design ...............3
   IS:254 Advanced Microcomputer Operating Systems .3

   Choose one of the following 4 credit hour options:
   IS:151 Microcomputer Applications in Business ..................4
       (or)
   IS:118 Microcomputer Applications—Databases ........1
   IS:119 Microcomputer Applications—Word Processing and ....1
   IS:125 Excel for Windows ................................2

   Choose 8 credits from the following list:
   IS:125 Excel for Windows .........................2
   IS:137 Microcomputer Applications—Presentation Software .1
   IS:129 HTML ........................................1
   IS:202 Information Systems Fieldwork .........3
   IS:131 Advanced HTML ...............................2
   IS:229 UNIX ......................................3
   IS:231 Introduction to Data Communications ....3
   IS:235 Network Design and Installation ........3
   IS:237 Computer System and Network Security ....3

Program total ..............................64 credits
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<td>College Algebra</td>
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<td>XXX:xxx</td>
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<td>Missouri State Requirement</td>
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<tr>
<td>ECO:151</td>
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<td>Principles of Macroeconomics</td>
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<tr>
<td>PSY:200</td>
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<td>General Psychology</td>
</tr>
<tr>
<td>PSY:206</td>
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<td>Introduction to Social Psychology</td>
</tr>
<tr>
<td>SOC:101</td>
<td></td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>SOC:103</td>
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<td>Human Behavior at Work and Business</td>
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</table>

**II. Physical Education Activity**  
2 credits

**III. Area of Concentration**  
44 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC:100</td>
<td>3</td>
<td>Applied Accounting</td>
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<tr>
<td>BUS:104</td>
<td></td>
<td>Introduction to Business Administration</td>
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<td>IS:103</td>
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<td>Information Systems for Business</td>
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<tr>
<td>IS:123</td>
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<td>Introduction to Windows</td>
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<tr>
<td>IS:124</td>
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<td>Windows—Advanced Topics</td>
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<tr>
<td>IS:125</td>
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<td>Windows—Intermediate Topics</td>
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<tr>
<td>IS:129</td>
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<td>HTML</td>
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<td>IS:130</td>
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<td>Hardware and Software Support</td>
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<td>IS:136</td>
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<td>Internet Fundamentals</td>
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<td>Keyboarding and Formatting</td>
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<td>IS:210</td>
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<td>Office Procedures</td>
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<td>Electronic Records Management</td>
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<td>IS:157</td>
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<td>Microcomputer Applications—Intermediate Word Processing</td>
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<td>IS:126</td>
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<td>E-Mail and Information Management</td>
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<td>IS:109</td>
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<td>Proofreading and Editing Skills</td>
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<td>IS:155</td>
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<td>Office Technology</td>
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<td>IS:161</td>
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<td>Microcomputer Applications—Advanced Word Processing</td>
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<td>IS:156</td>
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<td>Microcomputer Applications—Intermediate Database</td>
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<td>IS:164</td>
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<td>Voice Recognition Technology</td>
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<td>MGT:101</td>
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<td>Introduction to Supervision</td>
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Choose one of the following courses  
3 credits

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IS:139</td>
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<td>Web Publishing Using Advanced HTML</td>
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<tr>
<td>IS:135</td>
<td></td>
<td>Communication and Design for the WWW I</td>
</tr>
<tr>
<td>IS:141</td>
<td></td>
<td>Graphics for the Web</td>
</tr>
<tr>
<td>IS:291</td>
<td></td>
<td>Co-op Work Experience I—Information Systems</td>
</tr>
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</table>

Choose one of the following 5 credit hour options  
4 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:151</td>
<td></td>
<td>Microcomputer Applications in Business</td>
</tr>
<tr>
<td>IS:158</td>
<td></td>
<td>Microcomputer Application—Intermediate Spreadsheets</td>
</tr>
<tr>
<td>IS:118</td>
<td></td>
<td>Microcomputer Applications—Databases</td>
</tr>
<tr>
<td>IS:119</td>
<td></td>
<td>Microcomputer Applications—Word Processing</td>
</tr>
<tr>
<td>IS:125</td>
<td></td>
<td>Excel for Windows</td>
</tr>
<tr>
<td>IS:137</td>
<td></td>
<td>Microcomputer Applications—Presentation Software</td>
</tr>
<tr>
<td>IS:118</td>
<td></td>
<td>Microcomputer Applications—Databases</td>
</tr>
<tr>
<td>IS:119</td>
<td></td>
<td>Microcomputer Applications—Word Processing</td>
</tr>
</tbody>
</table>

**Information Systems:**  
Programmer/Analyst Option

**ASSOCIATE IN APPLIED SCIENCE DEGREE**  
Florissant Valley, Forest Park and Meramec

This program provides students with the technical skills and knowledge required to write, implement, and maintain business application programming systems. It teaches the concepts of computer programming and systems analysis.

Students completing the program are prepared for positions as entry level programmers.

**I. Career General Education**  
19-20 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ENG:101</td>
<td></td>
<td>College Composition I</td>
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<tr>
<td>ENG:102</td>
<td></td>
<td>College Composition II (or)</td>
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<tr>
<td>ENG:103</td>
<td></td>
<td>Report Writing</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td></td>
<td>Missouri State Requirement</td>
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<tr>
<td>(MTH:160A, MTH160B, or MTH160C)</td>
<td>4</td>
<td>College Algebra (and)</td>
</tr>
<tr>
<td>MTH:177</td>
<td></td>
<td>Finite Mathematics (or)</td>
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<tr>
<td>MTH:186</td>
<td></td>
<td>Survey of Calculus (or)</td>
</tr>
<tr>
<td>BUS:103</td>
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<td>Business Mathematics</td>
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</table>

Social Science Component  
3 credits

Choose one of the following courses:  
3 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>SOC:101</td>
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<td>Introduction to Sociology</td>
</tr>
<tr>
<td>PSY:200</td>
<td></td>
<td>General Psychology</td>
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<td>ECO:151</td>
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<td>Principles of Macroeconomics</td>
</tr>
<tr>
<td>PHL:102</td>
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<td>Introduction to Logic</td>
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</table>

**II. Physical Education Activity**  
2 credits

**III. Area of Concentration**  
25 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACC:110</td>
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<td>Financial Accounting</td>
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<tr>
<td>BUS:104</td>
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<td>Introduction to Business Administration</td>
</tr>
<tr>
<td>IS:103</td>
<td></td>
<td>Information Systems for Business</td>
</tr>
<tr>
<td>IS:110</td>
<td></td>
<td>Program Design and Development</td>
</tr>
<tr>
<td>IS:111</td>
<td></td>
<td>Programming in Basic</td>
</tr>
<tr>
<td>IS:112</td>
<td></td>
<td>Software and Hardware Concepts</td>
</tr>
<tr>
<td>IS:225</td>
<td></td>
<td>Database Management</td>
</tr>
<tr>
<td>IS:241</td>
<td></td>
<td>Systems Analysis and Design</td>
</tr>
</tbody>
</table>

**Microcomputer Component**  
6-7 credits

Pick one sequence from Option A, B, or C, then complete 2 credits from the microcomputer requirements list at the end of this section.

**Option A:** Choose 4-5 credits from

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:123</td>
<td></td>
<td>Introduction to Windows (or)</td>
</tr>
<tr>
<td>IS:118</td>
<td></td>
<td>Microcomputer Applications—Database</td>
</tr>
</tbody>
</table>
Students must complete a two semester sequence in the same programming area, choosing from one of the following options:

**Language Component**  
6 credits

Choose one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:117</td>
<td>Pascal Programming</td>
<td>3</td>
</tr>
<tr>
<td>IS:130</td>
<td>Hardware and Software Support</td>
<td>3</td>
</tr>
<tr>
<td>IS:133</td>
<td>Introduction to SQL</td>
<td>3</td>
</tr>
<tr>
<td>IS:257</td>
<td>Advanced Database Design</td>
<td>3</td>
</tr>
<tr>
<td>IS:139</td>
<td>Web Publishing Using Advanced HTML</td>
<td>3</td>
</tr>
<tr>
<td>IS:251</td>
<td>Introduction to Java</td>
<td>3</td>
</tr>
<tr>
<td>IS:259</td>
<td>Introduction to JavaScript</td>
<td>3</td>
</tr>
<tr>
<td>IS:260</td>
<td>Visual C++ Application Development</td>
<td>3</td>
</tr>
<tr>
<td>IS:261</td>
<td>Object-Oriented Program Design</td>
<td>3</td>
</tr>
<tr>
<td>IS:262</td>
<td>Advanced Web Development</td>
<td>3</td>
</tr>
<tr>
<td>IS:258</td>
<td>Applied Information Systems (or)</td>
<td>3</td>
</tr>
<tr>
<td>IS:202</td>
<td>Information Systems Field Work (or)</td>
<td>3</td>
</tr>
<tr>
<td>IS:291</td>
<td>Co-op Work Experience I-Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS:215</td>
<td>Introduction to Local Area Networks</td>
<td>3</td>
</tr>
<tr>
<td>IS:231</td>
<td>Introduction to Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>IS:250</td>
<td>Scripting for the Internet with Perl</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program total** 67-69 credits

---

### Microcomputer Electives  
4-5 credits

**Option A:**  
Microcomputer Applications in Business 4 (or)

**Option B:**  
Microcomputer Literacy (and) 3

**Option C:**  
Microcomputer Operating System - DOS 1 (or)

---

### Microcomputer Requirements List:

- IS:136 Internet Fundamentals 1
- IS:129 HTML 1

### System Software Component  
3 credits

Choose one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:229</td>
<td>UNIX</td>
<td>3</td>
</tr>
<tr>
<td>IS:127</td>
<td>Introduction to the AS/400</td>
<td>3</td>
</tr>
<tr>
<td>IS:254</td>
<td>Advanced Microcomputer Operating Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

### Elective Component  
6 credits

Choose two of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:119</td>
<td>Microcomputer Applications - Word Processing (or)</td>
<td>1</td>
</tr>
<tr>
<td>IS:137</td>
<td>Microcomputer Applications - Presentation Software</td>
<td>1</td>
</tr>
<tr>
<td>IS:120</td>
<td>Microcomputer Applications - Spreadsheets (or)</td>
<td>1</td>
</tr>
<tr>
<td>IS:125</td>
<td>Excel for Windows</td>
<td>2</td>
</tr>
</tbody>
</table>

### Microcomputer Systems  
1

- IS:116 Microcomputer Literacy (and) 3
- IS:226 Microcomputer Operating System - DOS (or)
- IS:118 Microcomputer Applications - Database 1

---

### Information Systems  
CERTIFICATE OF PROFICIENCY

Florissant Valley, Forest Park and Meramec

The certificate is designed for persons with an information systems background or for persons who have completed IS:103 or equivalent. Persons attending full time can complete the program within two semesters.
And as part of Option C choose one of the following three classes
IS:119 Microcomputer Applications - Word Processing (or) ..........1
IS:129 HTML (or) .................1
IS:137 Microcomputer Applications - Presentation Software ..........1

And as part of Option C choose one of the following two classes
IS:120 Microcomputer Applications - Spreadsheets (or) ..............1
IS:125 Excel for Windows ..............2

Information Systems Programming Electives  6 credits
Students must complete a two semester sequence in the same programming area, choosing from one of the following options:

COBOL Option:
IS:211 COBOL Programming I (and) ..........3
IS:212 COBOL Programming II ..............3

Visual Basic Option:
IS:246 Visual Basic Programming (and) ........3
IS:261 Object-Oriented Programming ........3

C/C++ Option:
IS:227 C Programming Language I (and) ........3
IS:256 C++ Object-Oriented Programming ........3

Java Option:
IS:251 Introduction to Java (and) ..........3
IS:252 Advanced Java ..............3

Program total ..........33-34 credits

Information Technology: Network Administration

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park, and Meramec
This program will assist computer professionals to update their network and communications technology skill set. These courses provide students with both the theoretical and practical knowledge required to perform entry-level network technicians or administrators. Students will gain additional skills through practical applications that focus on the day-to-day technology changes experienced by business and industry.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:129 HTML</td>
<td>1</td>
</tr>
<tr>
<td>IS:130 Hardware and Software Support</td>
<td>3</td>
</tr>
<tr>
<td>IS:215 Introduction to Local Area Networks</td>
<td>3</td>
</tr>
<tr>
<td>IS:217 Network Performance Monitoring</td>
<td>3</td>
</tr>
<tr>
<td>IS:218 Network Internship</td>
<td>3</td>
</tr>
<tr>
<td>IS:229 UNIX</td>
<td>3</td>
</tr>
<tr>
<td>IS:231 Introduction to Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>IS:235 Network Design and Installation</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:236 Network Administration</td>
<td>3</td>
</tr>
<tr>
<td>IS:237 Computer System and Network Security</td>
<td>3</td>
</tr>
<tr>
<td>IS:238 Web Server Implementation</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total ..........31 credits

Interior Design

ASSOCIATE IN APPLIED SCIENCE DEGREE
Meramec
This skill-oriented program emphasizes visual and oral communication skills necessary for the development of functional aesthetic interior space planning and design solutions. Students will learn to solve interior design-related problems by developing free-hand and drafting skills and computer skills as well as oral presentation skills. Students will become familiar with trade, professional and industry resources available both locally and nationally.

Persons interested in this program should have a strong desire to work with people, enjoy functional problem solving and appreciate the impact of design in our environment. Previous drawing, design or drafting courses also are helpful.

Graduates are qualified for entry-level positions in residential and/or commercial interior design and related fields. Typical positions include draftspersons, design apprentices, design assistants, independent or manufacturer’s representatives, facilities/space planner, retail home furnishing and product sales, and independent interior design consultant.

I. Career General Education  18 credits
   ENG:101 College Composition I ..............3
   ENG:102 College Composition II (or) .......3
   ENG:103 Report Writing ..................3
   PSY:200 General Psychology ..............3
   XXX:xxx Missouri State Requirement ..........3
   XXX:xxx Science/Mathematics requirement ..6

II. Physical Education Activity  2 credits
   ART:102 Art History II ..............3
   ART:103 History of Modern Art (or) .......3
   ART:110 Drawing II ..............3
   ART:107 Design I ................2
   ART:108 Design II ..............2
   ART:109 Drawing I ..............3
   ART:151 Interior Design I .............3
   ART:251 Interior Design II .............3
   ART:252 Residential Interior Design ........3
   ART:253 Commercial Interior Design ........3
   ART:152 Textiles ..............3
   ART:153 History of Cultural Environments I ..........3
   ART:254 History of Cultural Environments II ........3
   ARC:110 Architectural Graphics ........3
   ARC:112 Architectural Design and Production I ........3
   ART:154 Computer Aided Interior Design ........3

III. Area of Concentration  41 credits

St. Louis Community College
### International Business

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

**Forest Park**

This program combines a strong blend of international business, general business and liberal arts course work to prepare students to complete international business transactions: identify potential markets; secure licensing, financing and insurance; prepare goods for transit and complete the required documentation.

An awareness of cultural differences is extremely important in this field. Persons interested in this program should have an interest in other cultures and possess a healthy respect for and an understanding of cross-cultural differences. A willingness to relocate and travel anywhere in the world is a fundamental part of many positions.

Graduates of this program are prepared to work in a variety of international business positions. Typical job titles include export administrators, international sales administrators and coordinators, customer service representatives, assistants to international business directors, export correspondents, documentation specialists, international trafficking managers, export clerks, operations clerks and export sales specialists.

The associate degree program is designed for recent high school graduates and persons who do not currently possess a strong business background. The certificate program is designed for people interested in a career change, people currently employed in international business and current or potential business owners.

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### Program Requirements

#### I. Career General Education 24-25 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:103</td>
<td>Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:124</td>
<td>Technical Mathematics (or)</td>
<td>3</td>
</tr>
<tr>
<td>MTH:160</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Math or Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>ANT:103</td>
<td>Cultural Variations</td>
<td>3</td>
</tr>
<tr>
<td>PSC:101</td>
<td>Introduction to American Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSC:201</td>
<td>International Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

#### II. Physical Education Activity 2 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
</table>

#### III. Area of Concentration 31 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:110</td>
<td>Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BUS:104</td>
<td>Introduction to Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>ECO:151</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECO:152</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>IB:100</td>
<td>International Business</td>
<td>3</td>
</tr>
<tr>
<td>IB:200</td>
<td>The Export Process</td>
<td>3</td>
</tr>
<tr>
<td>IB:201</td>
<td>The Import Process</td>
<td>3</td>
</tr>
<tr>
<td>IB:202</td>
<td>International Marketing</td>
<td>3</td>
</tr>
<tr>
<td>IB:203</td>
<td>International Transportation</td>
<td>3</td>
</tr>
<tr>
<td>IB:205</td>
<td>International Business Internship (optional)</td>
<td>3</td>
</tr>
<tr>
<td>IB:206</td>
<td>International Business Organization and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

#### IV. Electives 3 credits

Consult program coordinator for approved electives

Program total .......................... 66 credits

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**IV. Electives 9-14 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXX:xxx</td>
<td>Foreign Language(s)</td>
<td>6-8</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Free elective (required)</td>
<td>3</td>
</tr>
<tr>
<td>IB:206</td>
<td>International Business Internship (optional)</td>
<td>0-3</td>
</tr>
</tbody>
</table>

Program total .......................... 66-72 credits

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**CERTIFICATE OF PROFICIENCY**

**Forest Park**

This program combines a strong blend of international business, general business and liberal arts course work to prepare students to complete international business transactions: identify potential markets; secure licensing, financing and insurance; prepare goods for transit and complete the required documentation. The certificate programs are designed for people interested in a career change, people currently employed in international business and current or potential business owners.

#### Courses Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT:103</td>
<td>Cultural Variations</td>
<td>3</td>
</tr>
<tr>
<td>BUS:104</td>
<td>Introduction to Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>PSC:101</td>
<td>Introduction to American Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSC:201</td>
<td>International Relations</td>
<td>3</td>
</tr>
<tr>
<td>IB:100</td>
<td>International Business</td>
<td>3</td>
</tr>
<tr>
<td>IB:200</td>
<td>The Export Process</td>
<td>3</td>
</tr>
<tr>
<td>IB:201</td>
<td>The Import Process</td>
<td>3</td>
</tr>
<tr>
<td>IB:202</td>
<td>International Marketing</td>
<td>3</td>
</tr>
<tr>
<td>IB:203</td>
<td>International Transportation</td>
<td>3</td>
</tr>
<tr>
<td>IB:205</td>
<td>International Business Internship (optional)</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total .......................... 30-33 credits

---

**CERTIFICATE OF SPECIALIZATION**

**Forest Park**

This certificate allows the student to concentrate on the essential international business courses.

#### Courses Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT:103</td>
<td>Cultural Variations</td>
<td>3</td>
</tr>
<tr>
<td>IB:100</td>
<td>International Business</td>
<td>3</td>
</tr>
<tr>
<td>IB:200</td>
<td>The Export Process (or)</td>
<td>3</td>
</tr>
<tr>
<td>IB:201</td>
<td>The Import Process</td>
<td>3</td>
</tr>
<tr>
<td>IB:202</td>
<td>International Marketing (or)</td>
<td>3</td>
</tr>
<tr>
<td>IB:205</td>
<td>International Business Organization and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total .......................... 12 credits

---
Kitchen and Bath Design

CERTIFICATE OF PROFICIENCY

Meramec

This skill-oriented program emphasizes visual and oral communication skills necessary for the development of functional and aesthetically pleasing residential kitchen and bath design. Students will become familiar with trade, professional and industry resources available both locally and nationally.

Persons interested in this program should have a strong desire to work with people, enjoy functional problem solving, and appreciate the impact of design in our environment. Previous drawing, design, drafting or computer courses are also helpful.

Students will become student members of the National Kitchen and Bath Association. At the completion of the program, students will be eligible to sit for the AKBD (Associate Kitchen and Bath Designer) exam. Graduates are qualified for entry level positions in the residential kitchen and bath design field.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC:110 Architectural Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ARC:112 Architectural Design and Production I</td>
<td>3</td>
</tr>
<tr>
<td>ARC:209 Mechanical and Electrical Systems I</td>
<td>3</td>
</tr>
<tr>
<td>ART:151 Interior Design I</td>
<td>3</td>
</tr>
<tr>
<td>ART:155 Bath Design</td>
<td>3</td>
</tr>
<tr>
<td>ART:156 Advanced Kitchen Design</td>
<td>3</td>
</tr>
<tr>
<td>ART:157 Perspective Drawing and Rendering for Interior Designers</td>
<td>2</td>
</tr>
<tr>
<td>ART:158 Workplace Learning: Internship in Kitchen and Bath Design</td>
<td>3</td>
</tr>
<tr>
<td>AT:151 Designer Resources</td>
<td>3</td>
</tr>
<tr>
<td>AT:152 Lighting Design</td>
<td>3</td>
</tr>
<tr>
<td>AT:251 Computer Aided Kitchen and Bath Design</td>
<td>3</td>
</tr>
<tr>
<td>MKT:104 Principles of Selling</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total .......................... 35 credits

Lead Maintenance Mechanic

CERTIFICATE OF SPECIALIZATION

Forest Park

This certificate program is designed both for those preparing for entry-level positions and for those already working in the maintenance field. Building upon the skills developed in the Maintenance Mechanic program, this certificate prepares the graduate for a higher level of responsibility in the maintenance field.

Sponsored by City of St. Louis and International Union of Operating Engineers, Local 2

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE:116 Construction Blueprint Reading</td>
<td>3</td>
</tr>
<tr>
<td>MGT:101 Introduction to Supervision</td>
<td>3</td>
</tr>
<tr>
<td>ME:103 Mechanical Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>ME:109 Electrical Fundamentals and Maintenance</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total .......................... 12 credits

Landscapes and Gardening

CERTIFICATE OF SPECIALIZATION

Meramec

This program is offered at the Missouri Botanical Garden’s Kemper Center for Home Gardening and provides training that enables students to enhance their gardening skills. The program provides hands-on instruction in basic horticulture principles to those who plan to manage landscapes. Courses address plant selection and care, weed and pest control, preparation and use of garden soil, and lawn care.

I. Required Course

HRT:110 Fundamentals of Horticulture .......................... 1

II. Choose 8 credits from the following

HRT:111 Selected Topics in Gardening .......................... 1
HRT:112 Plant Identification: Annuals and Perennials .... 1
HRT:125 Plant Identification: Trees .......................... 1
HRT:126 Plant Identification: Shrubs and Vines .............. 1
HRT:127 Soil Management ...................................... 1
HRT:128 Turfgrass Culture .................................... 1
HRT:130 Principles of Landscape Design ...................... 1
HRT:132 Plant Pest Identification and Management .......... 1
HRT:133 Landscape Management ................................ 1

Program total .......................... .9 credits

Legal Studies for the Paralegal

ASSOCIATE IN APPLIED SCIENCE DEGREE

Florissant Valley and Meramec

This program, designed in cooperation with the Bar Association of Metropolitan St. Louis, prepares students for careers in the paralegal profession. Students develop a basic legal proceedings vocabulary and gain an understanding of Missouri statutes and cases and pretrial and trial proceedings. They study concepts of real and personal property and business organizations and develop skills in interviewing and counseling clients, writing legal resume, analyzing legal problems and drafting/preparing legal documents.

Students may obtain a certificate or an associate degree which requires ten additional courses in business, communications, social science and legal assistant.

Persons interested in this program should have an interest in the law. They should be self-motivated, able to work without supervision and have good oral and written communication skills.

Graduates are qualified for positions as legal assistants in private law firms, corporations, government agencies, or other businesses.

I. Career General Education .......................... 33 credits

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102 College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>HST:100 American Civilization (or)</td>
<td></td>
</tr>
<tr>
<td>HST:101 American History I (or)</td>
<td></td>
</tr>
</tbody>
</table>
IV. Elective 3 credits
(Business course recommended but not required)

Program total ............... 65 credits

CERTIFICATE OF PROFICIENCY
Florissant Valley and Meramec
Students may obtain a certificate or an associate degree which requires ten additional courses in business, communications, social science and legal assistant.

Persons interested in this program should have an interest in the law. They should be self-motivated, able to work without supervision and have good oral and written communication skills.

The certificate is for those individuals seeking a career change or who are currently employed in a law-related field.

I. Required Courses 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGL:104</td>
<td>Introduction to Civil Trial Procedures</td>
<td>3</td>
</tr>
<tr>
<td>LGL:108</td>
<td>Introduction to Law for the Paralegal</td>
<td>3</td>
</tr>
<tr>
<td>LGL:106</td>
<td>Computers and the Law</td>
<td>3</td>
</tr>
<tr>
<td>LGL:217</td>
<td>Legal Research</td>
<td>3</td>
</tr>
<tr>
<td>LGL:218</td>
<td>Legal Writing</td>
<td>3</td>
</tr>
<tr>
<td>LGL:207</td>
<td>Law of Real Property and Real Estate Transactions</td>
<td>3</td>
</tr>
<tr>
<td>LGL:206</td>
<td>Business Organization and Government Regulation</td>
<td>3</td>
</tr>
<tr>
<td>LGL:228</td>
<td>Family Law</td>
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<td>LGL:211</td>
<td>Torts</td>
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<td>LGL:229</td>
<td>Advanced Computer Utilization</td>
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</tr>
<tr>
<td>LGL:230</td>
<td>Employment Law</td>
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<tr>
<td>LGL:216</td>
<td>Advanced Civil Trial Procedures</td>
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</tr>
<tr>
<td>LGL:219</td>
<td>Paralegal Internship</td>
<td>3</td>
</tr>
<tr>
<td>LGL:233</td>
<td>Bankruptcy</td>
<td>3</td>
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<tr>
<td>LGL:234</td>
<td>Uniform Commercial Code</td>
<td>3</td>
</tr>
<tr>
<td>LGL:232</td>
<td>Contracts</td>
<td>3</td>
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<tr>
<td>LGL:220</td>
<td>Criminal Law and Procedure for the Paralegal</td>
<td>3</td>
</tr>
<tr>
<td>LGL:221</td>
<td>Advanced On Line - Database Legal Research</td>
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</tr>
<tr>
<td>LGL:222</td>
<td>Legal Research on the Internet</td>
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</tr>
<tr>
<td>LGL:231</td>
<td>CD-ROM Legal Research</td>
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<tr>
<td>LGL:223</td>
<td>Evidence</td>
<td>3</td>
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<tr>
<td>LGL:107</td>
<td>Alternative Dispute Resolution</td>
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<tr>
<td>LGL:224</td>
<td>Environmental Law</td>
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<tr>
<td>LGL:225</td>
<td>Administrative Law</td>
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<tr>
<td>LGL:226</td>
<td>Law Office Administration</td>
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<tr>
<td>LGL:227</td>
<td>Remedies</td>
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</table>

Program total ............... 30 credits
**Maintenance Mechanic**

**CERTIFICATE OF SPECIALIZATION**

**Florissant Valley, Forest Park**

This certificate program is designed both for those preparing for entry-level positions and for those already working in the maintenance field. Graduates will be prepared to perform general maintenance duties and to use the tools necessary to repair equipment in existing facilities.

Sponsored by City of St. Louis and International Union of Operating Engineers, Local 2

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME:101 Welding Technology</td>
<td>3</td>
</tr>
<tr>
<td>ME:108 Principles of Plumbing/Pipefitting</td>
<td>3</td>
</tr>
<tr>
<td>ME:110 HVAC Operator I</td>
<td>3</td>
</tr>
<tr>
<td>ME:151 Manufacturing Processes I</td>
<td>3</td>
</tr>
<tr>
<td>ME:223 Basic Hydraulics I</td>
<td>2</td>
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</tbody>
</table>

Program total 14 credits

**Mammography Technology**

**CERTIFICATE OF SPECIALIZATION**

**Forest Park**

This program offers a specialty in Mammography Technology for graduates of an accredited two-year Allied Health program in Radiologic Technology. Applicants must also have passed the certification examination administered by the American Registry of Radiologic Technologist (ARRT) and possess a current ARRT registry card.

Persons interested in the program should be comfortable working in a close one-to-one relationship. They should also be self-motivated, detail-oriented, compassionate and have an interest in the health sciences.

The Mammography program is a 16-week program that is offered in the fall and spring semester. This program has also been designed to meet the FDA/MQSA initial requirements for training in Mammography.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>XRT:250 Essentials of Mammography I</td>
<td>2</td>
</tr>
<tr>
<td>XRT:251 Essentials of Mammography II</td>
<td>2</td>
</tr>
<tr>
<td>XRT:252 Mammography Practicum</td>
<td>5</td>
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</tbody>
</table>

Program total 9 credits

**Management and Supervisory Development**

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

**Florissant Valley and Meramec**

This program provides the knowledge and skills necessary for effective supervisory performance. Although the program is designed to enable currently employed persons to further their education and develop leadership qualities, persons seeking the degree to obtain entry-level positions would have a functional academic background that would fit many areas of business.

Persons interested in this program should enjoy working with people and accomplishing objectives. Work experience that heightens students’ understanding of functional and interpersonal relationships also is helpful.

Graduates of the program are qualified for first-line and middle management positions in business and industry. Typical positions available to graduates are group leaders, management trainees, first-line supervisors, middle managers, staff specialists, plant supervisors, office managers, data processing coordinators, contract administrators and administrative assistants.

<table>
<thead>
<tr>
<th>I. Career General Education</th>
<th>27-28 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:100 Career English (or)</td>
<td>3</td>
</tr>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:103 Report Writing (or)</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102 College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>COM:101 Oral Communication (or)</td>
<td>3</td>
</tr>
<tr>
<td>COM:107 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ECO:140 Introduction to Economics (or)</td>
<td>3</td>
</tr>
<tr>
<td>ECO:151 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MGT:109 Business Organizational Behavior and Dynamics (or)</td>
<td>3</td>
</tr>
<tr>
<td>SOC:103 Human Behavior at Work and in Business</td>
<td>3</td>
</tr>
<tr>
<td>PSY:200 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx Missouri State Requirement</td>
<td>3</td>
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<tr>
<td>BUS:103 Business Mathematics (or)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 100 level or higher</td>
<td>3</td>
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<tr>
<td>Science requirement</td>
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<table>
<thead>
<tr>
<th>II. Physical Education Activity</th>
<th>2 credits</th>
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</thead>
<tbody>
<tr>
<td>XRT:252 Essentials of Mammography Practicum</td>
<td>5</td>
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</table>

<table>
<thead>
<tr>
<th>III. Area of Concentration</th>
<th>27-28 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:100 Applied Accounting (or)</td>
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<tr>
<td>ACC:110 Financial Accounting I</td>
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</tr>
<tr>
<td>BLW:101 Business Law I (or)</td>
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<tr>
<td>BLW:201 Legal Environment of Business</td>
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</tr>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
<td>3</td>
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<tr>
<td>IS:103 Information Systems for Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT:101 Introduction to Supervision</td>
<td>3</td>
</tr>
<tr>
<td>MGT:231 Production Planning and Inventory Control (or)</td>
<td>3</td>
</tr>
<tr>
<td>MGT:119 Service Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:106 Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:201 Case Studies in Supervision</td>
<td>3</td>
</tr>
<tr>
<td>MGT:204 Business Organization and Management</td>
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<table>
<thead>
<tr>
<th>IV. Electives</th>
<th>9 credits</th>
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<tr>
<td>MGT:107 Labor Relations</td>
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<tr>
<td>MGT:110 Safety Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:111 Introduction to Traffic and Transportation Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:205 Purchasing Management</td>
<td>3</td>
</tr>
<tr>
<td>AOS:220 Business Communications Applications</td>
<td>3</td>
</tr>
<tr>
<td>MGT:103 Production Planning and Control</td>
<td>3</td>
</tr>
<tr>
<td>MGT:119 Service Operations Management</td>
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</tbody>
</table>

Program total 65-67 credits
CERTIFICATE OF PROFICIENCY
Florissant Valley and Meramec
This program provides the knowledge and skills necessary for effective supervisory performance. Although the program is designed to enable currently employed persons to further their education and develop leadership qualities, persons seeking the degree to obtain entry-level positions will receive a functional academic background to fit many areas of business.

Persons interested in this program should enjoy working with people and accomplishing objectives. Work experiences that heighten students’ understanding of functional and interpersonal relationships also are helpful.

I. Career General Education 9 credits
ENG:100 Career English (or) 3
ENG:101 College Composition I .................3
SOC:103 Human Behavior at Work in Business (or) 3
MGT:109 Business Organizational Behavior and Dynamics ...............3
BUS:103 Business Mathematics (or) 3

Program total ............ 24 credits

II. Area of Concentration 24-25 credits
ACC:100 Applied Accounting (or) 3
ACC:110 Financial Accounting I ...............3-4
BUS:104 Introduction to Business Administration 3
IS:103 Information Systems for Business 3
MGT:101 Introduction to Supervision 3
MGT:231 Production Planning and Inventory Control (or) 3
MGT:119 Service Operations Management 3
MGT:106 Human Resources Management 3
MGT:201 Case Studies in Supervision 3
MGT:204 Business Organization and Management 3

Program total ............ 33-34 credits

CERTIFICATE OF SPECIALIZATION
Florissant Valley and Forest Park
This program is primarily intended for persons who are currently employed. It provides the knowledge and skills necessary for effective performance in first-level supervisory positions.

I. Career General Education 17 credits
ENG:101 College Composition I .................3
ENG:103 Report Writing 3
MTH:144 Technical Algebra and Trigonometry 5
XXX:xxx Missouri State Requirement 3
XXX:xxx Social Science elective 3

II. Physical Education Activity 2 credits

III. Area of Concentration 47 credits
EE:101 Technical Electricity 5
EGR:100 Engineering Drawing 3
EGR:140 Computer Aided Drafting and Design I 3
ME:135 Mechanics-Statics 3
ME:140 Introduction to Robotics 3
ME:151 Manufacturing Processes I 3
ME:152 Manufacturing Processes II 3
ME:241 Numerical Control Programming 3
ME:242 Mechanics-Dynamics 3
ME:243 Strength of Materials 3
ME:244 Mechanical Design I 3
ME:249 Materials and Metallurgy 3
ME:255 Fluid Power 3
XXX:xxx Elective 3

Program total ............ 66 credits

Manufacturing Technology: Computer Option
Florissant Valley
This program prepares students for positions as manufacturing technicians who assist manufacturing engineers by translating the general ideas of the engineer into specific, detailed plans and communicating these plans to the machinist and craftsmen. Students learn to measure, analyze and improve upon production elements such as workers, materials and machines.

Persons interested in this field should be mechanically inclined, proficient in algebra and trigonometry and able to work well with others.

Graduates are qualified for wide variety of technical positions in the manufacturing sector, including sales and service. The program provides a mixture of education and training. The program emphasizes the computer aided-drafting and computerized numerical control aspects (CAD/CAM) of manufacturing technology.

I. Career General Education 17 credits
ENG:101 College Composition I .................3
ENG:103 Report Writing 3
MTH:144 Technical Algebra and Trigonometry 5
XXX:xxx Missouri State Requirement 3
XXX:xxx Social Science elective 3

II. Physical Education Activity 2 credits

III. Area of Concentration 47 credits
EE:101 Technical Electricity 5
EGR:100 Engineering Drawing 3
EGR:140 Computer Aided Drafting and Design I 3
GE:101 Technical Computer Programming 3
ME:135 Mechanics-Statics 3
ME:140 Introduction to Robotics 3
ME:151 Manufacturing Processes I 3
ME:152 Manufacturing Processes II 3
ME:241 Numerical Control Programming 3
ME:242 Mechanics-Dynamics 3
ME:243 Strength of Materials 3
ME:244 Mechanical Design I 3
ME:249 Materials and Metallurgy 3
ME:255 Fluid Power 3
XXX:xxx Elective 3

Program total ............ 66 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.
Design Option/Production Option
Also available are a Design Option and many courses toward a Production Option. For more information, contact the Engineering and Technology Department at Florissant Valley.

Mass Communications
ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park
This program is designed to prepare students for entry-level positions in the mass communications field. Students learn the fundamentals of journalism, broadcasting and advertising through a combination of basic liberal arts courses and advanced courses in print and broadcasting that emphasize hands-on experience. Students acquire organizational, technical and writing skills and the ability to assess situations and sell themselves accordingly.

Persons interested in this program should have an interest in writing and enjoy communicating with other people.

All students in this program are required to complete an on-the-job internship. Graduates of the program are qualified for positions as newspaper reporters, magazine writers, public relations or advertising specialists or as radio and television writers and producers.

Mass Communications students must be able to type 40 wpm.

I. Career General Education 21-22 credits
ENG:101 College Composition I ................ 3
ENG:102 College Composition II ............... 3
XXX:xxx Math or Science Electives ............. 6
XXX:xxx Missouri State Requirement ........... 3
ECO:140 Introduction to Economics ............ 3
XXX:xxx Humanities elective .................. 3-4

II. Physical Education Activity 2 credits

III. Area of Concentration 30 credits
MCM:101 Introduction to Mass Communications . 3
MCM:110 Journalism I: Writing and Reporting . 3
MCM:120 Introduction to Broadcasting .......... 3
MCM:140 Introduction to Advertising .......... 3
XXX:xxx Print Option (or) Broadcast Option .... 18

Print Option
MCM:111 Journalism II: Editing and Design ...... 3
MCM:112 Feature Writing ....................... 3
MCM:113 Applied Journalism ................... 3
MCM:141 Public Relations (or) ................. 3
MCM:210 Public Affairs Reporting ............. 3
MCM:214 Filmmaking (or) ..................... 3
ART:165 Photography I .......................... 3
MCM:201 Media Internship I ................... 3

Broadcasting Option
MCM:121 Television Production .................. 3
MCM:122 Applied Broadcasting ................. 3
MCM:123 Broadcast Journalism ................. 3
MCM:124 Radio Production ..................... 3

MCM:134 Filmmaking (or)
ART:165 Photography I ......................... 3
MCM:201 Media Internship I ................... 3

IV. Electives 8-11 credits
XXX:xxx Electives

Program total 64 credits

Mechanical Engineering Technology
ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley
This program provides students with the scientific and engineering knowledge needed to obtain entry-level positions in this field. Students learn the theory and principles of mechanical engineering technology in the development and testing of machinery and equipment under the direction of engineering staff and physical scientists. Through classroom work and practical experience in mechanical engineering laboratories, students learn to perform mechanical testing and reduction and interpretation of data from tests, design and development of new equipment or modify existing equipment and prepare or interpret engineering drawings or sketches.

Persons interested in this program should be mechanically inclined, possess analytical skills and have an interest in design.

Graduates are qualified for positions as engineering assistants, laboratory technicians, designers, tool designers and plant engineering technicians in the automotive, aerospace, heavy equipment, chemical, electrical, petroleum and food processing industry.

I. Career General Education 25 credits
ENG:100 Career English (or) .................... 3
ENG:101 College Composition I ................. 3
ENG:103 Report Writing (or) .................... 3
ENG:102 College Composition II ............... 3
GE:101 Technical Computer Programming ........ 3
GE:131 Engineering Technology Orientation .... 3
MTH:144 Technical Algebra and Trigonometry .... 5
MTH:154 Technical Analytic Geometry and Calculus 4
XXX:xxx Missouri State Requirement .......... 3
Social Science requirement ..................... 3

II. Physical Education Activity 2 credits

III. Area of Concentration 43 credits
EGR:100 Engineering Drawing .................. 3
ME:135 Mechanics-Statics ..................... 3
ME:151 Manufacturing Processes I .............. 3
ME:152 Manufacturing Processes II ............. 3
ME:242 Mechanics-Dynamics ................... 3
ME:243 Strength of Materials .................. 3
ME:244 Mechanical Design I .................... 3
ME:255 Fluid Power ............................ 3
ME:246 Mechanical Design II ................... 3
ME:249 Materials and Metallurgy ............... 3
Program total  .............. 70 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

Medical Billing and Coding
CERTIFICATE OF PROFICIENCY
Forest Park
This program prepares students for entry-level positions as medical billing specialists, medical coders, claims examiners, healthcare reimbursement specialists, and health insurance specialists. Students will learn ICD-9-CM, ICD-10-CM, CPT-4 Surgical and CPT-4 Non-Surgical coding procedures and will prepare for the AAPC (American Academy of Professional Coders), CDPC (Certified Professional Coder) certification. Students will also gain preparation for the AHIMA (American Health Information Management Association), CCS (Certified Coding Specialist) and CCA (Certified Coding Associate) certifications, and the HRS (Healthcare Reimbursement Specialist) credential offered by the National Electronic Billers Alliance (NEBA). This certificate program provides the foundation to pursue additional study in Health Information Technology.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIO:111</td>
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<tr>
<td>BIO:215</td>
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<td>HIT:101</td>
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<td>IS:123</td>
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<tr>
<td>IS:151</td>
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</tbody>
</table>

Program total  .............. 43 credits

Medical Transcription
CERTIFICATE OF PROFICIENCY
Forest Park
This program prepares students for entry-level positions as medical transcriptionists. Graduates can also be considered for positions as medical records clerks, receptionists in health care facilities, and hospital unit secretaries. Employment opportunities are available in private transcription services, hospitals, doctors' offices, clinics, and other health care facilities. The primary job function of medical transcriptionists is to transcribe dictated medical reports (patient histories, physical examinations, consultation reports, operation reports, discharge summaries) and other clinical diagnostic information.

Students acquire a basic knowledge of medical terminology and human anatomy. Skills in machine transcription, word processing and communications are emphasized.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIO:111</td>
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</tr>
<tr>
<td>BIO:215</td>
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<td>IS:157</td>
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<tr>
<td>IS:161</td>
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</table>

Program Total  .............. 45 credits

Microcomputer Applications
CERTIFICATE OF SPECIALIZATION
Floreissant Valley, Forest Park and Meramec
This certificate is designed for individuals who are interested in learning a range of end-user applications for personal computers, including operating systems, word processing, spreadsheets, and data bases. It prepares the graduate to employ the functions of personal computers that are generally in use in offices today.

1. Courses 8 credits

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:101</td>
<td>1</td>
</tr>
<tr>
<td>IS:103</td>
<td>3</td>
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</tbody>
</table>
Microcomputer Programming

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park and Meramec

These programs provide additional training for students pursuing an associate degree in information systems, business administration, accounting or secretarial. It also provides training for persons with bachelor's degrees who wish to upgrade their job skills by obtaining a microcomputer specialization. Students will learn general computer concepts which include hardware, software and logical processes required when using a microcomputer system; methodologies for selecting and using software application packages and the necessary skills to design and implement computer programs.

Persons interested in the program should be familiar with algebraic concepts and have strong analytical skills.

Program total ..............18 credits

Multimedia

CERTIFICATE OF PROFICIENCY
Forest Park

This program is designed to provide instructional training to students or retrain professionals in the high technology multimedia field. The certificate draws expertise from several disciplines: audio/video, graphic design, photography, information systems, and mass communications. This certificate can be tailored to students’ interests.

Introductory Courses 5 credits
IS:103 Information Systems for Business ...............3
MCM:136 Introduction to Multimedia .................2
Area of Concentration 12 credits
(select 12 credit hours from a minimum of two of the four following categories, A-D)

A. Design Classes
- ART:107 Design I ..................................2
- ART:108 Design II ..................................2
- ART:131 Computer Art Studio ....................3
- ART:133 Graphic Design I .........................3
- ART:134 Graphic Design II .......................3
- AT:233 Storyboarding/Animatics ...............2
- AT:234 Computer Animation I ..................3
- ART:236 Typography ................................2
- ART:241 Publication Design .....................3
- AT:248 Audio/Visual Multi-Image Presentations 3
- ART:274 Presentation Graphics ..................3
- AT:247 Broadcast Graphics .......................2
- MCM:135 Communications and Design for the WWW I ...............1
This course is also offered as AT:135 and IS:135
- MCM:212 Specialized Publication Production ..................3

B. Writing Classes
- MCM:110 Journalism I: Writing and Reporting ....3
- MCM:112 Feature Writing ..........................3
- MCM:123 Broadcast Journalism ....................3
- MCM:125 Scriptwriting for T.V. and Film ........3
- MCM:140 Introduction to Advertising .............3
- MCM:141 Public Relations ..........................3
- MCM:217 Publications Writing ....................3

C. Media Presentation Classes
- MCM:114 Photojournalism ..........................3
- MCM:121 Television Production ...................3
- MCM:122 Applied Broadcasting ....................3
- MCM:124 Radio Production ........................3
- MCM:219 Multimedia Applications ................1-3
- MCM:126 Video Production-Field ..................3
- MCM:127 Video Production-Studio ................3
- MCM:201 Media Internship I ......................3
- MCM:213 Advanced Video Production ..............3
- AT:275 Introduction to Digital Imaging ..........3
- AT:276 Advanced Digital Imaging - 3D .............3

D. Information Systems Classes
- IS:251 Introduction to Java .......................3
- IS:250 Scripting for Internet with Perl ..........3
- IS:129 HTML ......................................1
- IS:131 Advanced HTML ............................2

Completion Course 4 credits
- MCM:137 Multimedia Production ..................4

Program total ..................21 credits

Nursing
ASSOCIATE IN APPLIED SCIENCE DEGREE
Floissant Valley, Forest Park and Meramec
St. Louis Community College currently offers a nursing program on each campus.

This program prepares students to become registered nurses. Students learn to provide direct care for clients that is based on the nursing process. Students acquire knowledge and technical skills necessary for effective communication with clients and families. They learn management, organizational and delegation skills necessary to provide competent care to a group of clients. Health care teaching is emphasized as a critical aspect of the communication process.

The didactic and clinical components of the curriculum are interrelated to provide a strong background for the student in attaining the objectives of the programs and in becoming a competent practitioner. Experience is provided in a variety of agencies including hospitals, nursing homes, clinics and home health care settings.

The nursing program on each campus is approved by the Missouri State Board of Nursing and accredited by the National League for Nursing Accrediting Commission.

Persons considering a career in nursing should have an interest in the health sciences and in working closely with people. In addition, they should be able to meet the academic demands of a program that requires a commitment of time, energy and motivation to learn.

Admission to the program is contingent on meeting the established minimum criteria as defined in the Nursing Program Handbook. Applicants also are required to complete a health history and immunization record. Applicants selected for the program are required to have a physical examination.

Graduates are eligible to apply to write the National Council Licensure Examination for Registered Nurses.

(An individual who has been convicted of a felony may not be licensed to practice as a registered nurse in the state of Missouri.)

I. Career General Education 30 credits
- ENG:100 Career English (or)
- ENG:101 College Composition I .........................3
- ENG:102 College Composition II (or)
- ENG:103 Report Writing (or)
- Literature elective ........................................3
- PSY:200 General Psychology ............................3
- PSY:205 Human Growth and Development ...........3
- SOC:101 Introduction to Sociology .....................3
- XXX:xxx Missouri State Requirement ................3
- BIO:203 General Microbiology ..........................4
- BIO:207 Human Anatomy and Physiology I ..........4
- BIO:208 Human Anatomy and Physiology II ..........4

II. Physical Education Activity 2 credits
III. Area of Concentration 36 credits
OTA:103 Fundamentals of Occupational Therapy I .......................... 2
OTA:104 Adaptive Activities I ............................................. 2
OTA:203 Fundamentals of Occupational Therapy Assistant III ........... 4
OTA:204 Fundamentals of Occupational Therapy Assistant IV ............ 4
OTA:207 Health and Disease ................................................. 4
OTA:208 Adaptive Living Skills ............................................... 2
OTA:213 OTA Practicum I ...................................................... 4
OTA:214 OTA Practicum II ...................................................... 4
OTA:215 Health Occupations Seminar ....................................... 2
OTA:216 Level II Field-Work Seminar ....................................... 1

Program total ..................... 68 credits

Occupational Therapy Assistant
ASSOCIATE IN APPLIED SCIENCE DEGREE
Meramec
This program prepares students for positions as occupational therapy assistants who work under the supervision of registered occupational therapists. Through courses in the structure and function of the human body, psychology and occupational therapy principles and techniques, in addition to clinical experience, students learn skills in interviewing; assessing; and treatment planning and implementation.

The Occupational Therapy Assistant Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. AOTA's phone number is (301) 652-AOTA. Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this 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.

I. Career General Education 29 credits
ENG:100 Career English (or) ................................................. 3
ENG:101 College Composition I ............................................. 3
COM:101 Oral Communication I ......................................... 3
PSY:200 General Psychology ................................................. 3
PSY:205 Human Growth and Development ............................ 3
SOC:201 Aspects of Aging .................................................. 3
XXX:xxx Missouri State Requirement ................................... 3
BIO:207 Anatomy and Physiology I ..................................... 4
BIO:208 Anatomy and Physiology II .................................... 4
BIO:209 Kinesiology .......................................................... 3

II. Physical Education Activity 2 credits

III. Area of Concentration 36 credits
OTA:101 Fundamentals of Occupational Therapy I ..................... 3
OTA:102 Fundamentals of Occupational Therapy Assistant II ......... 4

Program total ..................... 67 credits

Oracle Developer
CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park and Meramec
This certificate is designed for individuals who are interested in developing skills to create and manage an Oracle database. It will empower the student with the tools, knowledge, and practical experience needed to design, develop, program, implement and administer an Oracle database. Graduates will be qualified for the high demand positions of Developer, Analyst, Administrator or Programmer in the Oracle environment.

Core Courses 9 credits
IS:225 Database Management .............................................. 3
IS:257 Advanced Database Design ....................................... 3
IS:246 Visual Basic Programming (or) ................................ 3
IS:227 C Programming Language I (or) .............................. 3
IS:251 Introduction to Java .................................................. 3

Oracle Focus 18 credits
IS:133 Introduction to SQL .................................................. 3
IS:270 Oracle PL/SQL ......................................................... 3
IS:272 Oracle Database Administration .................................. 3
IS:271 Oracle User Interface Design ...................................... 3
IS:273 Oracle Design and Implementation .............................. 3
IS:262 Advanced Web Development ...................................... 3

Electives (select one course) 3 credits
IS:250 Introduction to JavaScript ......................................... 3
IS:255 Advanced Visual Basic Programming ........................... 3
IS:256 C++ Object-Oriented Programming ............................. 3
IS:250 Scripting for the Internet with Perl ............................. 3

Program total ..................... 30 credits
Paramedic Technology
ASSOCIATE IN APPLIED SCIENCE DEGREE
Florence Valley and Meramec

This program prepares students for positions as emergency medical technicians-paramedics. Paramedics are skilled in patient assessment and recognition of diagnostic signs and symptoms of major injuries and illnesses. They learn to use ambulance, rescue vehicle and hospital emergency room equipment to provide high-level emergency medical care and stabilize emergency patients. Paramedics also are trained to provide advanced life support to include fluid and drug therapy, as well as the performance of some essential emergency surgical techniques under the written or oral orders of licensed physicians.

Persons interested in this program should have maturity in dealing with others as well as co-workers. They should have good manual dexterity and physical coordination for carrying, lifting, extricating, climbing, hoisting, etc. In addition, they should be able to give as well as receive written and oral directions and instruction and have good vision and visual color discrimination in examination of patients for determining diagnostic signs requiring immediate treatment.

Graduates are eligible to sit for state and national licensing boards. Positions are available with ambulance services, fire departments, hospitals, emergency communications centers and industrial medical and safety departments.

I. Career General Education 28-29 credits
   ENG:101 College Composition I (or) 3
   ENG:100 Career English 3
   ENG:102 College Composition II (or) 3
   ENG:103 Report Writing 3
   XXX:xxx Missouri State Requirement 3
   XXX:xxx Social Science requirement 3
   BIO:207 Anatomy and Physiology I 4
   BIO:208 Anatomy and Physiology II 4
   BIO:203 General Microbiology 4
   CHM:101 Fundamentals of Chemistry (or) 4-5
   CHM:105 General Chemistry 4-5

II. Physical Education Activity 2 credits

III. Area of Concentration 38 credits
   PAR:201 Principles of Paramedic Technology I 8
   PAR:202 Principles of Paramedic Technology II 8
   PAR:226 Principles of Paramedic Technology III 3
   PAR:227 Principles of Paramedic Technology IV 4
   PAR:203 Pharmacology for Paramedics 3
   PAR:211 Paramedic Laboratory I 1
   PAR:212 Paramedic Laboratory II 1
   PAR:221 Paramedic Clinical I 1
   PAR:222 Paramedic Clinical II 2
   PAR:228 Paramedic Clinical III 1
   PAR:223 Paramedic Internship I 1
   PAR:224 Paramedic Internship II 1
   PAR:225 Paramedic Internship III 4

Program total 68-69 credits

Pharmacy Technician
CERTIFICATE OF PROFICIENCY
Forest Park

Courses Credits
BIO: 215 Human Body Systems ................. 5
COM: 101 Oral Communication I ............... 3
ENG: 103 Report Writing 3
SOC: 101 Introduction to Sociology ........... 3
PHT:101 Pharmacy Technician Orientation 3
PHT:103 Pharmacy Calculations 3
PHT:104 Pharmacy Law 1
PHT:201 Pharmacy Practice 4
PHT:203 Pharmacy Practice 4
PHT:205 Sterile Compounding 4
PHT:110 Pharmacy Technician Internship I 1
PHT:111 Pharmacy Technician Internship I Seminar 1
PHT:220 Pharmacy Technician Internship II 2
PHT:221 Pharmacy Technician Internship II Seminar 1

Program total 38 credits

CERTIFICATE OF SPECIALIZATION
Forest Park

Courses Credits
PHT:115 Fundamentals of Pharmacy Practice 6
PHT:116 Pharmacy Technician Practicum 1
PHT:117 Pharmacy Technician Practicum Seminar 1

Program total 8 credits

Phlebotomy
CERTIFICATE OF SPECIALIZATION
Forest Park

This program prepares students for entry-level positions as phlebotomists. Through practical experience at clinical affiliates, students learn to draw blood using various techniques in venipuncture and microcollection and gain experience in other specimen collection, transport, recording and reporting of patient data.

Persons interested in this program should have an interest in the health sciences and be comfortable working with people in close one-to-one relationships. They should be patient and tactful in their interactions with others.

Courses Credits
CLT:106 Phlebotomy Essentials 5
CLT:107 Phlebotomy Practicum 6

Program total 11 credits
Physical Therapist Assistant
ASSOCIATE IN APPLIED SCIENCE DEGREE
Meramec

This program prepares students for positions as physical therapist assistants. Students take career general education and related science courses in the first year and take physical therapy core courses and complete clinical experiences during the second year. Students acquire skills in helping physical therapists evaluate the capabilities of an individual to determine the best type of therapy and administer different types of treatment to patients. In addition, students learn to assist patients in performing exercises, walking, climbing stairs, dressing and other everyday activities. They are responsible for setting up patients for treatment and instructing patients in the use of artificial limbs, braces and crutches.

Persons interested in this program should be comfortable working with people of all age groups in close one-to-one relationships. They should enjoy physical activity and be patient and empathetic when instructing others.

Graduates are qualified for positions in hospitals, rehabilitation centers, out-patient clinics, nursing homes and schools.

I. Career General Education 33 credits
   BIO:111 Introductory Biology I
   (Prerequisite to PTA Program) .......... 4
   ENG:100 Career English (or)
   ENG:101 College Composition I .............. 3
   COM:101 Oral Communication .............. 3
   PSY:200 General Psychology .............. 3
   PSY:205 Human Growth and Development (or)
   PSY:203 Child Psychology .............. 3
   SOC:201 Aspects of Aging .............. 3
   XXX:xx Missouri State Requirement ........ 3
   BIO:207 Anatomy and Physiology I .......... 4
   BIO:208 Anatomy and Physiology II .......... 4
   BIO:209 Kinesiology .......... 3

II. Physical Education Activity 2 credits

III. Area of Concentration 37 credits
   PTA:100 Introduction to Physical Therapist
   Assistant .............. 2
   PTA:104 Clinical Experience I .............. 2
   PTA:105 Fundamentals of Physical Therapist
   Assistant .............. 4
   PTA:208 Health Occupation Seminar ........ 2
   PTA:211 Physical Agents .............. 4
   PTA:212 Therapeutic Experience and
   Rehab Concepts I .............. 5
   PTA:213 Therapeutic Experience and
   Rehab Concepts II .............. 5
   PTA:214 Assessment Skills .............. 2
   PTA:215 Medical Conditions in Rehabilitation ........ 3
   PTA:216 Clinical Education IIA .............. 4
   PTA:217 Clinical Education IIB .............. 4

Program total .......... 72 credits

Plastics Technology
ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley

The AAS degree Plastics Technology program is designed to prepare graduates for careers as processing technicians in the plastics industry. Graduates will be qualified for positions requiring setting up and operating plastics processing equipment, troubleshooting processing problems, production line management, technical service, safety, and support. The curriculum is designed to provide education in applied mathematics, chemistry, fundamentals of the chemical and physical properties of plastics materials and their processing characteristics, quality control, electronic, pneumatic, and hydraulic control systems, and technical communications.

Students will receive extensive “hands-on” experience. They will gain an understanding of how the various mechanical, hydraulic, and electrical systems of processing machinery interact to form a plastic product. The curriculum will include all of the major processing methods but will emphasize injection molding.

I. Career General Education 19 credits
   ENG:100 Career English (or)
   ENG:101 College Composition I .............. 3
   ENG:103 Report Writing (or)
   ENG:102 College Composition II .............. 3
   MTH:108 Elementary Applied Mathematics ........ 3
   CHM:101 Fundamentals of Chemistry .............. 4
   XXX:xx Missouri State Requirement ........ 3
   XXX:xx Social Science elective ........ 3

II. Physical Education Activity 2 credits

III. Area of Concentration 19 credits
   PLA:100 Introduction to Plastics Technology ........ 4
   PLA:150 Plastics Materials, Testing and Handling ........ 4
   PLA:200 Plastics Machine Operations I .............. 4
   PLA:250 Plastics Machine Operations II .............. 4
   PLA:290 Plastics Practicum .............. 3

IV. Technical Electives 25 credits
   GE:131 Engineering Technology Orientation ........ 1
   GE:132 Technology Applications .............. 4
   QC:104 Principles and Application of Quality ........ 3
   IE:133 Production Control .............. 3
   IE:138 Mechanical Measurements .............. 3
   ME:109 Electrical Fundamentals and Maintenance ........ 3
   ME:151 Manufacturing Process I .............. 3
   ME:211 Programmable Logic Controllers ........ 3
   ME:223 Basic Hydraulics I .............. 2

Program total .......... 65 credits
CERTIFICATE OF SPECIALIZATION

Florissant Valley

Program total .................. 16 credits

Plumbing Design Engineering Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE

Forest Park

This program is designed to train students interested in entering plumbing design and to upgrade the skills of persons currently employed in this area. Students acquire design capability in a specific element of engineering through classroom work and laboratory work. They are trained in the hydraulics of gravity flow of pressure and vacuum, heat transfer, chemistry, fire suppression, building structures and report writing.

Persons interested in this program should be mechanically inclined and possess analytical skills.

Graduates are qualified for positions in consulting engineering, architectural engineering and design-build contract offices.

Plumbing Design Engineering Technology is primarily an evening program. Plumbing Design I, Plumbing Design II, Plumbing Design III, Fire Systems Design, Basic Fire Protection and Alarm Systems are only offered at night. All other courses are offered both day and evening.

I. Career General Education 21 credits

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG:101</td>
<td>College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:103</td>
<td>Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>MTH:144</td>
<td>Technical Algebra and Trigonometry</td>
<td>5</td>
</tr>
<tr>
<td>MTH:154</td>
<td>Technical Analytical Geometry and Calculus</td>
<td>4</td>
</tr>
<tr>
<td>XXX:xxx</td>
<td>Missouri State Requirement</td>
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<td>XXX:xxx</td>
<td>Social Science elective</td>
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II. Physical Education Activity 2 credits

<table>
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<tr>
<td>ENG:103</td>
<td>Report Writing</td>
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III. Area of Concentration 41 credits

<table>
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<tbody>
<tr>
<td>EE:101</td>
<td>Technical Electricity</td>
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<tr>
<td>EGR:100</td>
<td>Engineering Drawing</td>
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<tr>
<td>EGR:110</td>
<td>Descriptive Geometry</td>
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<tr>
<td>FIR:110</td>
<td>Basic Fire Protection and Alarm Systems</td>
<td>3</td>
</tr>
<tr>
<td>GE:101</td>
<td>Technical Computer Programming</td>
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<tr>
<td>ME:104</td>
<td>Plumbing Design I</td>
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</tr>
<tr>
<td>ME:105</td>
<td>Plumbing Design II</td>
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</tr>
<tr>
<td>ME:106</td>
<td>Plumbing Design III</td>
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<tr>
<td>ME:135</td>
<td>Mechanics-Statics</td>
<td>3</td>
</tr>
<tr>
<td>ME:226</td>
<td>Air Conditioning and Heating</td>
<td>3</td>
</tr>
<tr>
<td>ME:243</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>ME:247</td>
<td>Energy Conversion</td>
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<tr>
<td>ME:255</td>
<td>Fluid Power</td>
<td>3</td>
</tr>
</tbody>
</table>

Program total .................. 64 credits

CERTIFICATE OF PROFICIENCY

Forest Park

This program is designed to train students interested in entering plumbing design and to upgrade the skills of persons currently employed in this area. Plumbing Design Engineering Technology is primarily an evening program. Plumbing Design I, Plumbing Design II, Plumbing Design III, Fire Systems Design, Basic Fire Protection and Alarm Systems are only offered at night. All other courses are offered both day and evening.

I. Career General Education 2 credits

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENG:101</td>
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II. Technical Education 3 credits

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<tr>
<td>MTH:144</td>
<td>Technical Algebra and Trigonometry</td>
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<td>ME:104</td>
<td>Plumbing Design I</td>
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<td>ME:105</td>
<td>Plumbing Design II</td>
</tr>
<tr>
<td>ME:106</td>
<td>Plumbing Design III</td>
</tr>
<tr>
<td>ME:135</td>
<td>Mechanics-Statics</td>
</tr>
<tr>
<td>ME:249</td>
<td>Materials and Metallurgy</td>
</tr>
<tr>
<td>ME:255</td>
<td>Fluid Power</td>
</tr>
</tbody>
</table>

Program total .................. 17 credits

Polysomnography Technology

CERTIFICATE OF SPECIALIZATION

Forest Park

This is the region's first sleep testing certificate program.

I. Career General Education 2 credits

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENG:101</td>
<td>College Composition I</td>
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<td>ENG:103</td>
<td>Report Writing</td>
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II. Technical Education 6 credits

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<td>MTH:144</td>
<td>Technical Algebra and Trigonometry</td>
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<tr>
<td>ME:104</td>
<td>Plumbing Design I</td>
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<td>ME:105</td>
<td>Plumbing Design II</td>
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<td>Plumbing Design III</td>
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<td>ME:255</td>
<td>Fluid Power</td>
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</tbody>
</table>

Program total .................. 14 credits
Quality Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE

Florissant Valley

Quality control requires the application of scientific and engineering knowledge combined with technical skills in the support of quality engineering activities. Students receive a broad technical background and learn the theory and principles of quality and quality-related activities through classroom work and practical assignments. Quality costing, inspection planning, statistical quality control and quality assurance are among the topics covered.

Persons interested in this program should be mechanically inclined and possess analytical and problem solving skills.

Graduates are qualified as quality technicians, machine inspectors, instrument technicians, quality auditors and quality control analysts in all major industries.

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

CERTIFICATE OF PROFICIENCY

Florissant Valley

This certificate provides the student with a general background in technical methods and measurements associated with quality control. It qualifies the student for entry-level positions in quality where an understanding of quality techniques combined with a comprehension of math and computer applications.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>QC:100 Introduction to Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>QC:102 Quality Cost Analysis</td>
<td>3</td>
</tr>
<tr>
<td>QC:200 Quality Assurance</td>
<td>3</td>
</tr>
<tr>
<td>QC:202 Inspection Methods</td>
<td>3</td>
</tr>
<tr>
<td>QC:206 Statistical Quality Control I</td>
<td>3</td>
</tr>
<tr>
<td>QC:208 Statistical Quality Control II</td>
<td>3</td>
</tr>
<tr>
<td>QC:xxx Elective</td>
<td>3</td>
</tr>
<tr>
<td>EGR:100 Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>GE:101 Technical Computer Programming</td>
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</tr>
<tr>
<td>IE:138 Mechanical Measurement</td>
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<td>MTH:124 Technical Math I</td>
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<td>MTH:126 Technical Math II</td>
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<td>ENG:100 Career English (or)</td>
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<td>ENG:101 College Composition I</td>
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</table>

Program total .................. 36 credits

CERTIFICATE OF SPECIALIZATION

Florissant Valley

This certificate provides the student with a general background in technical methods and measurements associated with quality control. It qualifies the student for entry-level positions in quality where an understanding of quality techniques combined with a comprehension of math and computer applications.

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<tr>
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<tbody>
<tr>
<td>QC:100 Introduction to Quality Control</td>
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<tr>
<td>QC:208 Statistical Quality Control II</td>
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<tr>
<td>QC:xxx Elective</td>
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Program total .................. 18 credits

<table>
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<tr>
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<tr>
<td>CHM:101 Fundamentals of Chemistry I</td>
<td>5</td>
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<td>EGR:100 Engineering Drawing</td>
<td>3</td>
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<tr>
<td>ENG:100 Career English (or)</td>
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<td>ENG:101 College Composition I</td>
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<td>ENG:103 Report Writing (or)</td>
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<td>ENG:102 College Composition II</td>
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<tr>
<td>GE:101 Technical Computer Programming</td>
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<td>GE:131 Engineering Technology Orientation</td>
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<td>MTH:124 Technical Math I</td>
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<td>MTH:134 Technical Math II</td>
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<td>XXX:xxx Humanities or Social Science elective</td>
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Program total .................. 69 credits

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>IE:138 Mechanical Measurement</td>
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<tr>
<td>ME:249 Materials and Metallurgy</td>
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<tr>
<td>QC:100 Introduction to Quality Control</td>
<td>3</td>
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<td>QC:102 Quality Cost Analysis</td>
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</tr>
<tr>
<td>QC:xxx Elective</td>
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Program total .................. 36 credits

I. Career General Education 30 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM:101 Fundamentals of Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>EGR:100 Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ENG:100 Career English (or)</td>
<td>3</td>
</tr>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:103 Report Writing (or)</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102 College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>GE:101 Technical Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>GE:131 Engineering Technology Orientation</td>
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<tr>
<td>MTH:124 Technical Math I</td>
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</tr>
<tr>
<td>MTH:134 Technical Math II</td>
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<tr>
<td>XXX:xxx Humanities or Social Science elective</td>
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<td>XXX:xxx Missouri State Requirement</td>
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II. Physical Education Activity 2 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>IE:138 Mechanical Measurement</td>
<td>3</td>
</tr>
<tr>
<td>ME:249 Materials and Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>QC:100 Introduction to Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>QC:102 Quality Cost Analysis</td>
<td>3</td>
</tr>
<tr>
<td>QC:105 Non-Destructive Testing</td>
<td>4</td>
</tr>
<tr>
<td>QC:200 Quality Assurance</td>
<td>3</td>
</tr>
<tr>
<td>QC:202 Inspection Methods</td>
<td>3</td>
</tr>
<tr>
<td>QC:204 Reliability and Failure Analysis</td>
<td>3</td>
</tr>
<tr>
<td>QC:206 Statistical Quality Control I</td>
<td>3</td>
</tr>
<tr>
<td>QC:208 Statistical Quality Control II</td>
<td>3</td>
</tr>
<tr>
<td>QC:xxx Elective</td>
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</tr>
<tr>
<td>EGR:100 Engineering Drawing</td>
<td>3</td>
</tr>
<tr>
<td>GE:101 Technical Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>IE:138 Mechanical Measurement</td>
<td>3</td>
</tr>
<tr>
<td>MTH:124 Technical Math I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:126 Technical Math II</td>
<td>3</td>
</tr>
<tr>
<td>ENG:100 Career English (or)</td>
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<tr>
<td>ENG:101 College Composition I</td>
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</table>

Program total .................. 36 credits

III. Area of Concentration 31 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE:138 Mechanical Measurement</td>
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<td>ME:249 Materials and Metallurgy</td>
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<tr>
<td>QC:100 Introduction to Quality Control</td>
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<tr>
<td>QC:105 Non-Destructive Testing</td>
<td>4</td>
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<tr>
<td>QC:200 Quality Assurance</td>
<td>3</td>
</tr>
<tr>
<td>QC:202 Inspection Methods</td>
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</tr>
<tr>
<td>QC:204 Reliability and Failure Analysis</td>
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<tr>
<td>QC:206 Statistical Quality Control I</td>
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<tr>
<td>QC:208 Statistical Quality Control II</td>
<td>3</td>
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<tr>
<td>QC:xxx Elective</td>
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<tr>
<td>EGR:100 Engineering Drawing</td>
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<tr>
<td>GE:101 Technical Computer Programming</td>
<td>3</td>
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<tr>
<td>IE:138 Mechanical Measurement</td>
<td>3</td>
</tr>
<tr>
<td>MTH:124 Technical Math I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:126 Technical Math II</td>
<td>3</td>
</tr>
<tr>
<td>ENG:100 Career English (or)</td>
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Program total .................. 36 credits

IV. Electives 6 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>QC:104 Principles and Application of Quality</td>
<td>3</td>
</tr>
<tr>
<td>QC:209 Design of Experiments/Taguchi Methods</td>
<td>3</td>
</tr>
<tr>
<td>QC:210 Software Quality Assurance</td>
<td>3</td>
</tr>
<tr>
<td>QC:211 Assessment of Quality Systems</td>
<td>3</td>
</tr>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>COM:108 Business/Technical Presentation</td>
<td>3</td>
</tr>
<tr>
<td>EE:207 Industrial Instrumentation</td>
<td>3</td>
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<tr>
<td>ME:151 Manufacturing Process I</td>
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</tr>
</tbody>
</table>

Program total .................. 36 credits

ST. LOUIS COMMUNITY COLLEGE
## Radiologic Technology

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

**Forest Park**

This program prepares students for positions as radiographers (x-ray technologists). Students must attend full-time and take courses in radiographic procedures and related subjects. In addition, they receive approximately 2000 hours of clinical education in the campus laboratory and clinical education centers. Students learn to use complex x-ray and darkroom equipment designed to record images which aid radiologists in diagnosing and treating various health problems.

Persons interested in this program should be comfortable working with people of all age groups in close one-to-one relationships. They should be patient and tactful in their interactions with others and have an interest in health sciences. Students must meet technical standards of the program before admission. See admission material.

Graduates are eligible to make application for the certification examination administered by the American Registry of Radiologic Technologists. Positions are available in hospital radiology departments, clinics and private physicians' offices. Students enrolled in this program should like and have a personal commitment to working with sick patients.

Prerequisite: Students must be accepted into the Radiologic Technology Program or obtain the program director's permission before they can take any professional radiology course.

<table>
<thead>
<tr>
<th>I. Career General Education</th>
<th>23-24 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>COM:101 Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:124 Technical Math I or higher</td>
<td>3-4</td>
</tr>
<tr>
<td>BIO:207 Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>BIO:208 Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>PSY:200 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx Missouri State Requirement</td>
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</table>

<table>
<thead>
<tr>
<th>II. Physical Education Activity</th>
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<table>
<thead>
<tr>
<th>III. Area of Concentration</th>
<th>55 credits</th>
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<tbody>
<tr>
<td>XRT:101 Radiographic Procedures I</td>
<td>6</td>
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<tr>
<td>XRT:102 Radiographic Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>XRT:103 Radiographic Procedures III</td>
<td>3</td>
</tr>
<tr>
<td>XRT:104 Principles of Radiographic Exposure I</td>
<td>2</td>
</tr>
<tr>
<td>XRT:105 Principles of Radiographic Exposure II</td>
<td>2</td>
</tr>
<tr>
<td>XRT:107 Radiologic Physics I</td>
<td>2</td>
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<tr>
<td>XRT:108 Radiologic Physics II</td>
<td>2</td>
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<tr>
<td>XRT:111 Clinical Education I</td>
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<td>XRT:112 Clinical Education II</td>
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<td>XRT:116 Clinical Education III</td>
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<tr>
<td>XRT:121 Radiographic Film Evaluation I</td>
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<tr>
<td>XRT:122 Radiographic Film Evaluation II</td>
<td>2</td>
</tr>
<tr>
<td>XRT:207 Radiologic Pathology</td>
<td>2</td>
</tr>
<tr>
<td>XRT:208 Imaging and Special Techniques</td>
<td>3</td>
</tr>
<tr>
<td>XRT:209 Radiobiology</td>
<td>2</td>
</tr>
<tr>
<td>XRT:211 Radiologic Technology Review</td>
<td>3</td>
</tr>
<tr>
<td>XRT:212 Radiologic Technology Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

| XRT:213 Clinical Education IV | 3 |
| XRT:214 Clinical Education V | 4 |
| XRT:215 Clinical Education VI | 3 |

**Program total . . . . . . . 79-80 credits**

## Real Estate

**ASSOCIATE IN APPLIED SCIENCE DEGREE**

**Meramec**

This program provides increased technical competency in real estate sales, appraisal and management. Students gain the knowledge and skills necessary for handling residential real estate transactions and real estate property appraisal procedures and requirements. In addition, limited knowledge and skills in commercial property transactions, fundamental knowledge and skills in operating a real estate broker business and real estate property management skills are taught. This program prepares individuals to sit for the Missouri Real Estate Sales and Brokers License Examinations. It also provides additional education for those currently employed in the real estate industry.

Persons interested in the program should have a proficiency in business mathematics. Interpersonal and communication skills are important in this field.

Graduates of this program are qualified for positions as real estate sales persons, real estate brokers, real estate appraisers and real estate property managers.

<table>
<thead>
<tr>
<th>I. Career General Education</th>
<th>24-26 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:100 Career English (or)</td>
<td></td>
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<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102 College Composition II (or)</td>
<td></td>
</tr>
<tr>
<td>ENG:103 Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM:101 Oral Communication I</td>
<td></td>
</tr>
<tr>
<td>ECO:140 Introduction to Economics (or)</td>
<td></td>
</tr>
<tr>
<td>ECO:151 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>PSY:200 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>XXX:xxx Missouri State Requirement</td>
<td>3</td>
</tr>
<tr>
<td>MTH:xxx Mathematics 100 level or higher (or BUS:103)</td>
<td>3-4</td>
</tr>
<tr>
<td>Physical Science</td>
<td>3-4</td>
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</table>

<table>
<thead>
<tr>
<th>II. Physical Education Activity</th>
<th>2 credits</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>III. Area of Concentration</th>
<th>32-33 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>ACC:100 Applied Accounting (or)</td>
<td>3-4</td>
</tr>
<tr>
<td>ACC:110 Financial Accounting I</td>
<td>3-4</td>
</tr>
<tr>
<td>MKT:203 Principles of Marketing (or)</td>
<td></td>
</tr>
<tr>
<td>MKT:104 Principles of Selling</td>
<td>3</td>
</tr>
<tr>
<td>REL:100 Real Estate Sales Procedures</td>
<td>4</td>
</tr>
<tr>
<td>REL:102 Property Appraisal I: Residential</td>
<td>3</td>
</tr>
<tr>
<td>REL:202 Property Appraisal II: Income Producing</td>
<td>3</td>
</tr>
<tr>
<td>REL:104 Real Estate Law</td>
<td>3</td>
</tr>
<tr>
<td>REL:204 Real Estate Finance</td>
<td>3</td>
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<tr>
<td>REL:205 Real Estate Property Management</td>
<td>3</td>
</tr>
<tr>
<td>REL:208 Real Estate Broker Procedures</td>
<td>4</td>
</tr>
</tbody>
</table>
and Brokers License Examination.

This program is designed to provide technical competency in real estate sales and appraisal. The course of study will prepare individuals to sit for the Missouri Real Estate Sales and appraisal. The course of study will also provide the class hours needed for certification and to improve their effectiveness in their field.

### Real Estate Appraisal

**CERTIFICATE OF PROFICIENCY**
**Florissant Valley and Meramec**

This program is designed to provide technical competency in real estate sales and appraisal. The course of study will prepare individuals to sit for the Missouri Real Estate Sales and Brokers License Examination.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL:100 Real Estate Sales Procedures</td>
<td>4</td>
</tr>
<tr>
<td>REL:102 Property Appraisal I: Residential</td>
<td>3</td>
</tr>
<tr>
<td>REL:105 Residential Appraisal II: Market Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>REL:202 Property Appraisal II: Income Producing</td>
<td>3</td>
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<tr>
<td>REL:209 Income Appraisal II</td>
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</tbody>
</table>

Choose one course from the following 3 credits

REL:104 Real Estate Law
REL:210 Real Estate Investment Analysis
REL:204 Real Estate Finance

**Program total ...............19 credits**

### Respiratory Therapy

**ASSOCIATE IN APPLIED SCIENCE DEGREE**
**Forest Park**

This Program prepares students for positions as respiratory therapists. Students learn to administer treatment(s) or conduct tests on persons with lung and heart ailments, as ordered by a patient’s physician. The program includes natural sciences, humanities, and respiratory therapy courses, in addition to clinical practice at area health facilities.

Persons interested in the program should be team-oriented, compassionate individuals who derive satisfaction from helping others in time of crisis. They also should be able to tolerate moderate physical activity, long hours of standing, and be able to work effectively under stress.

Graduates are eligible to challenge the entry-level (CRT), and advance practitioner’s (RRT) examinations offered through the National Board for Respiratory Care. Employment is available through hospitals, clinics, home care agencies, education, equipment sales and marketing.

#### I. Career General Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
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<td>ENG:102 College Composition II</td>
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<tr>
<td>MTH:124 Technical Mathematics I or higher</td>
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<tr>
<td>CHM:101 Fundamentals of Chemistry I</td>
<td>5</td>
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<tr>
<td>BIO:203 General Microbiology</td>
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<tr>
<td>BIO:207 Anatomy and Physiology I</td>
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<td>BIO:208 Anatomy and Physiology II</td>
<td>4</td>
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<tr>
<td>XXX:xxx Missouri State Requirement</td>
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<td>PSY:200 General Psychology</td>
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**Program total ..............78-79 credits**

#### II. Physical Education Activity

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>RTH:120 Introduction to Respiratory Care and Respiratory Physics</td>
<td>5</td>
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<tr>
<td>RTH:121 Orientation to the Hospital</td>
<td>2</td>
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<tr>
<td>RTH:125 Airway Management</td>
<td>3</td>
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<tr>
<td>RTH:126 Introduction to Mechanical Ventilation</td>
<td>3</td>
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<tr>
<td>RTH:127 Respiratory Pharmacology</td>
<td>2</td>
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<tr>
<td>RTH:128 Arterial Blood Gases</td>
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<tr>
<td>RTH:131 Pediatric Respiratory Care</td>
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<tr>
<td>RTH:140 Respiratory Care Clinical I</td>
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<tr>
<td>RTH:146 Clinical Level II</td>
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<tr>
<td>RTH:220 Pulmonary Pathophysiology</td>
<td>3</td>
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<tr>
<td>RTH:221 Critical Care Monitoring</td>
<td>2</td>
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<tr>
<td>RTH:222 Cardiopulmonary Physiology</td>
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<tr>
<td>RTH:223 Mechanical Ventilation: A Clinical Approach</td>
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<tr>
<td>RTH:225 Pulmonary Function Testing</td>
<td>3</td>
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<td>RTH:228 NBRC Review</td>
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<td>RTH:240 Respiratory Care Clinical III</td>
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<tr>
<td>RTH:245 Respiratory Care Clinical IV</td>
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</table>

**Program total ..............78-79 credits**
Robotics Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE
Floressant Valley

This program prepares students for positions in electromechanics (another name for robotics), robotics and automation fields. Students take courses similar to those in engineering, but with a less demanding level of math and more emphasis on the use of industrial equipment. The programs provides a mixture of education and training. Persons interested in this program should be mechanically inclined, self-starters who can work without constant supervision.

Graduates are qualified for a variety of technical positions within the automotive, aerospace, heavy equipment, chemical, electrical, petroleum and food processing industries that utilize computer process control and computer integrated manufacturing (including robots).

I. Career General Education 20 credits
   ENG:101 College Composition I ...............3
   ENG:103 Report Writing .......................3
   MTH:144 Technical Algebra and Trigonometry .5
   ME:135 Mechanics-Statistics ................3
   XXX:xxx Missouri State Requirement ........3
   Social Science elective .....................3

II. Physical Education Activity 2 credits
   EE:106 Technical Electricity .................5
   EE:223 Digital Logic ........................4
   EE:242 Introduction to Microprocessors ....3
   EE:244 Microprocessor Applications .........3
   EGR:100 Engineering Drawing ................3
   EGR:140 Computer Aided Drafting and Design .3
   GE:101 Technical Computer Programming ....3
   ME:140 Introduction to Robotics .............3
   ME:151 Manufacturing Processes I ............3
   ME:210 Robot Subsystems and Components ....3
   ME:211 Programmable Logic Controllers ......3
   ME:242 Mechanics-Dynamics ..................3
   ME:243 Strength of Materials ................3
   ME:255 Fluid Power ..........................3

Program total ..................67 credits

Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

Sales

ASSOCIATE IN APPLIED SCIENCE DEGREE
Floressant Valley and Meramec

This program prepares students for sales positions in organizations which market industrial, technical and consumer goods and services. Students will learn to apply practical techniques or selling in a range of situations, act as intermediaries between customers and suppliers, and comprehend the complex interrelationship between the salesperson and the other components of a business.

Graduates are qualified for positions as sales trainees for small and medium sized manufacturers, wholesalers and retailers. Sales trainees are responsible for servicing existing customers, prospecting and qualifying new prospects, creating and making sales presentations, closing sales, performing post-sale service and acting as field market research resources for customer needs.

I. Career General Education 30-31 credits
   ENG:101 College Composition I ...............3
   ENG:102 College Composition II ..............3
   COM:101 Oral Communication I (or)
   COM:107 Public Speaking ........................3
   COM: 104 Persuasion ...........................3
   MTH: 140 Intermediate Algebra ................3
   XXX:xxx Math/Science electives .................3-4
   ECO:140 Introduction to Economics (or)
   ECO:151 Principles of Macroeconomics ..........3
   PSY:200 General Psychology ....................3
   XXX:xxx Humanities/Fine Arts Elective .........3
   XXX:xxx Missouri State Requirement ..........3

II. Physical Education Activity 2 credits

III. Area of Concentration 28 credits
   ACC:100 Applied Accounting (or)
   ACC:120 Computer Accounting Applications for Business ..........3
   IS: 125 Excel for Windows ....................2
   IS: 118 Microcomputer Applications-Databases .................1
   IS: 137 Microcomputer Applications-Presentation Software ........1
   BLW:101 Business Law I ......................3
   BUS:104 Introduction to Business Administration ................3
   MKT:101 Advertising Theory ...................3
   MGT:204 Business Organization and Management ................3
   MKT:104 Principles of Selling ..................3
   MKT:203 Principles of Marketing ................3
   XXX:xxx Business Elective ...................3

IV. Electives 3-4 credits

Program total ..................64 credits
CERTIFICATE OF SPECIALIZATION
Florissant Valley and Meramec
This certificate program is designed for persons who want to receive some fundamental knowledge in sales, business, and communications. Persons interested in entering the sales field and those currently employed in sales will benefit from the knowledge and skills received in the coursework provided in this certificate program.

Courses Credits
ENG:101 College Composition I 3
COM:101 Oral Communication I (or)
COM:104 Persuasion 3
IS: 125 Excel for Windows 2
IS: 118 Microcomputer Applications-Databases 1
BUS:104 Introduction to Business Administration 3
MKT:104 Principles of Selling 3
MKT:203 Principles of Marketing 3

Program total 18 credits

Skilled Trades Industrial Apprenticeship Training: Carpenter
ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley
Career general education requirements are comparable to other SLCC technically oriented AAS programs. The carpenter’s apprenticeship courses must be transferred in as a block and are only accepted after the student receives his/her journeyman’s license. Proof of receipt of the journeyman’s license is required. The directed electives were jointly chosen by college and Carpenter’s Training School faculty members.

I. Career General Education 22 credits
   ENG:101 College Composition I 3
   ENG:102 College Composition II (or)
   ENG:103 Report Writing 3
   MTH:124 Technical Math I 3
   PSI:124 Principles of Physical Science 4
   IS:103 Information Systems for Business 3
   XXX:xxx Missouri State Requirement 3
   Choose one of the following:  
     ECO:151 Principles of Macroeconomics
     PSY:200 General Psychology
     PSY:206 Social Psychology
     SOC:101 Introduction to Sociology
     SOC:103 Human Behavior at Work & in Business

II. Physical Education Activity 2 credits

III. Area of Concentration 40 credits
    Completion of Apprenticeship
    Requirements Including Receipt
    of Journeyman’s License 34

Six credits from the following list: 6
CE:108 Construction Methods 3
CE:115 Construction Materials and Methods 3
CE:131 Construction Estimating 3
CE:132 Construction Scheduling 3
CE:235 Construction Office Practice 3
CE:240 Plane Surveying 3
ME:101 Welding Technology 3
SKT:100 Basic Rigging 3

Program total 64 credits

Skilled Trades Industrial Apprenticeship Training: Electrician
CERTIFICATE OF PROFICIENCY
Florissant Valley
Provides industrial technical education and training for the skilled trade classification of electrician apprentice.

Courses Credits
MTH:124 Technical Mathematics I 3
MTH:134 Technical Mathematics II 3
BIC:201 Electrical Inspection 2
EE:130 Electrical Circuits I 4
EE:131 Electrical Circuits II 4
EE:132 Electronic Devices 5
EE:211 Technical Power Transmission–Distribution 3
EE:233 Digital Logic 4
EE:242 Introduction to Microprocessors 3
EGR:104 Electronic Drafting 2
IS:130 Hardware and Software Support 3
ME:140 Introduction to Robotics 3
ME:211 Programmable Logic Controllers 3

Program total 42 credits

Skilled Trades Industrial Training: Millwright
CERTIFICATE OF PROFICIENCY
Florissant Valley
Provides industrial technical education and training for the skilled trade classification of millwright apprentice. (Millwright apprentices install and operate all forms of rigging equipment, including the installation, servicing, moving and dismantling of plant equipment and machinery and perform all types of maintenance welding.)

Courses Credits
MTH:124 Technical Mathematics I 3
MTH:134 Technical Mathematics II 3
EGR:050 Fundamentals of Drafting 3
ME:101 Welding Technology 3
ME:103 Mechanical Maintenance 3
ME:135 Mechanics-Statics 3
ME:140 Introduction to Robotics 3
ME:151 Manufacturing Processes I 3
ME:242 Mechanics-Dynamics 3
Program total .............. 36 credits

Skilled Trades Industrial Training: Plumbing and Pipefitting

CERTIFICATE OF PROFICIENCY
Florissant Valley
Provides industrial technical education and training for the skilled trade classifications of plumbing and pipefitting apprentice. (Plumbing apprentices install and repair drainage waste and vent pipes for water supply systems. Pipefitting apprentices install mechanical systems and process systems requiring piping or tubing.)

Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH:124</td>
<td>Technical Mathematics I</td>
</tr>
<tr>
<td>MTH:134</td>
<td>Technical Mathematics II</td>
</tr>
<tr>
<td>EGR:050</td>
<td>Fundamentals of Drafting</td>
</tr>
<tr>
<td>ME:103</td>
<td>Mechanical Maintenance</td>
</tr>
<tr>
<td>ME:104</td>
<td>Plumbing Design I</td>
</tr>
<tr>
<td>ME:105</td>
<td>Plumbing Design II</td>
</tr>
<tr>
<td>ME:106</td>
<td>Plumbing Design III</td>
</tr>
<tr>
<td>ME:108</td>
<td>Principles of Plumbing and Pipefitting</td>
</tr>
<tr>
<td>ME:151</td>
<td>Manufacturing Processes I</td>
</tr>
<tr>
<td>ME:245</td>
<td>Hydraulics and Pneumatics</td>
</tr>
<tr>
<td>CE:116</td>
<td>Construction Blueprint Reading</td>
</tr>
<tr>
<td>ARC:209</td>
<td>Mechanical and Electrical Systems</td>
</tr>
<tr>
<td>CHM:114</td>
<td>Industrial Chemistry</td>
</tr>
</tbody>
</table>

Program total .............. 39 credits

Skilled Trades Industrial Training: Tool and Die

CERTIFICATE OF PROFICIENCY
Florissant Valley
Provides industrial technical education and training for the skilled trade classifications of tool and die apprentice. (Tool and die apprentices are machinists performing any type of machine work required for parts and equipment installation and repair. They design, manufacture, and install specialized tooling, jigs and fixtures required for various manufacturing and assembly operations.)

Program total .............. 37 credits

Skilled Trades Industrial Training

CERTIFICATE OF SPECIALIZATION
Florissant Valley
Provides industrial technical education and training associated with a variety of skilled trades.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH:030</td>
<td>Elementary Algebra</td>
</tr>
<tr>
<td>MTH:124</td>
<td>Technical Mathematics I</td>
</tr>
</tbody>
</table>

Dependent on the skilled trade classification an additional 6 to 12 credit hours of technical courses are required for the particular Certificate of Specialization. The program advisor must select these courses.
Choice of Skilled Trades Classifications and Emphasis Areas:
- Boiler Operator
- Carpenter
- Electrician
- Engineer - Steam
- Layout - Metal & Wood
- Mechanic - Gas & Electric Jitney
- Millwright
- Pipefitter/Plumber
- Repairer - Welder Equipment
- Sheet Metal Worker
- Waste Treatment Plant Operator

Supply Chain Management

ASSOCIATE IN APPLIED SCIENCE DEGREE
Meramec

This program provides students with the knowledge, skills and abilities required for a career in material management. Students learn to manage people, products, machinery and equipment to control the flow of material from its source to its destination point in business, service and government organizations.

Graduates of the program are qualified for positions as buyers, store supervisors, material handling supervisors, tool room supervisors, stock chasers, transportation coordinators, inventory analysts, senior material planners, quality assurance managers, communications coordinators and production control schedulers.

I. Career General Education 26-27 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG:101 College Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG:102 College Composition II</td>
<td>3</td>
</tr>
<tr>
<td>COM:101 Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MTH:160 College Algebra or higher</td>
<td>4</td>
</tr>
<tr>
<td>ECO:151 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>GEG:106 U.S. and World Geography</td>
<td>3</td>
</tr>
<tr>
<td>CHM:105 General Chemistry I (or)</td>
<td>5</td>
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<tr>
<td>PHYS:111 College Physics</td>
<td>4</td>
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<tr>
<td>XXX:xxx Missouri State Requirement</td>
<td>3</td>
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</table>

II. Physical Education Activity 2 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS:201 Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BIO:108 Anatomy and Physiology II</td>
<td>4</td>
</tr>
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</table>

III. Area of Concentration 42 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC:110 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>IS:118 Microcomputer Applications-Databases</td>
<td>1</td>
</tr>
<tr>
<td>IS:119 Microcomputer Applications-Word Processing</td>
<td>1</td>
</tr>
<tr>
<td>IS:125 Excel for Windows</td>
<td>2</td>
</tr>
<tr>
<td>IS:137 Microsoft Applications-Presentation Software</td>
<td>1</td>
</tr>
<tr>
<td>BUS:201 Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BUS:104 Introduction to Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>MGT:204 Business Organization and Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:130 Introduction to Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:230 Logistics Operations</td>
<td>3</td>
</tr>
<tr>
<td>MGT:231 Production Planning and Inventory Control</td>
<td>3</td>
</tr>
<tr>
<td>MGT:205 Purchasing Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:110 Safety Management</td>
<td>3</td>
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<tr>
<td>MGT:232 Transportation Logistics Management</td>
<td>3</td>
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<tr>
<td>MGT:239 Advanced Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT:120 Managerial Leadership</td>
<td>3</td>
</tr>
<tr>
<td>MTH:160 College Algebra or higher</td>
<td>4</td>
</tr>
</tbody>
</table>

Program total 70-71 credits

Surgical Technology

CERTIFICATE OF PROFICIENCY

Forest Park

This program prepares students for entry-level positions as surgical technicians. Students learn aseptic technique, instrumentation, surgical procedures and patient care through classroom, laboratory practice and at a clinical affiliate. Students learn to assist the surgeon by passing instruments and sutures, holding retractors and cutting sutures.

Persons interested in this program should be able to work well with others in a team environment. They should have good manual dexterity, enjoy the operating room situation, and function effectively under intense and stressful situations.

Graduates are qualified to take the National Certifying Examination offered by the Liaison Council on Certification through the Association of Surgical Technologists.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIO:208 Anatomy and Physiology II</td>
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<tr>
<td>ENG:101 College Composition I</td>
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</tr>
<tr>
<td>PSY:200 General Psychology (or)</td>
<td>3</td>
</tr>
<tr>
<td>SOC:101 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>ST:104 Pharmacology for Surgical Technologists</td>
<td>2</td>
</tr>
<tr>
<td>ST:105 Fundamentals of Surgical Technology</td>
<td>4</td>
</tr>
<tr>
<td>ST:108 Introduction to Surgical Technology</td>
<td>6</td>
</tr>
<tr>
<td>ST:109 Principles of Operating Room Communication</td>
<td>2</td>
</tr>
<tr>
<td>ST:110 Surgical Procedures I</td>
<td>4</td>
</tr>
<tr>
<td>ST:111 Surgical Technology Clinical I</td>
<td>8</td>
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</tbody>
</table>

Program total 35 credits
Technical/Business Communication

CERTIFICATE OF PROFICIENCY
Florissant Valley, Forest Park and Meramec

This program is designed to provide practical communications skills and experience to those who have trained or are training in another field, but who desire a higher level of communications skills. Students learn to create written and oral messages through a variety of media. Through courses in composition, communications and art, students acquire skills in locating, gathering and organizing information from printed, electronic and other media and in designing and using graphic aids. Students learn to present information in correct form, standard format and an understandable style.

Persons interested in the program should possess career skills in a clerical, managerial, financial, governmental, health services or technical area. They should have an interest in language and communication. Prior course work or experience in word processing, photography, engineering or technical illustration also is helpful.

Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG:100</td>
<td>Career English (or)</td>
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</tr>
<tr>
<td>ENG:101</td>
<td>College Composition I</td>
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</tr>
<tr>
<td>ENG:103</td>
<td>Report Writing</td>
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<tr>
<td>ENG:219</td>
<td>Advanced Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM:101</td>
<td>Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>COM:108</td>
<td>Business/Technical Presentation</td>
<td>3</td>
</tr>
</tbody>
</table>

Select three courses from following: 9 credits

- MCM:110 Journalism I: Writing and Reporting
- MCM:111 Journalism II: Editing and Design
- MCM:112 Feature Writing
- MCM:140 Introduction to Advertising
- MCM:142 Applied Advertising
- COM:103 Small Group Communication
- COM:105 Interview Process
- COM:110 Organizational Communication

Program total .............. 30 credits

Telecommunications Engineering Technology

ASSOCIATE IN APPLIED SCIENCE DEGREE
Florissant Valley

The courses offered in this program will give the telecommunications engineering technician a background in theory and practical experience needed in electric, electronic, analog and digital telecommunication principles needed to perform necessary job assignments.

This program prepares students for employment by requiring them to communicate through written and oral reports. These reports may require students to gather and interpret numerical data for inclusion into their reports.

The graduates will find employment in a variety of telecommunications companies i.e., government, industry, public and private institutions, cable and interconnect companies involving video, audio, electronic switching, networking and satellite acquisition equipment.

The telecommunications engineering technology technician will normally work in conjunction with an engineer or technologist, but also will be expected to perform independently or with minimum supervision.

I. Career General Education 22 credits

- ENG:101 College Composition I ............... 3
- ENG:102 College Composition II (or) ....... 3
- ENG:103 Report Writing .................................. 3
- GE:101 Technical Computer Programming ...... 3
- GE:131 Engineering Technology Orientation ... 1
- MTH:124 Technical Mathematics I ............ 3
- MTH:134 Technical Mathematics II (or) ...... 3
- Social Science elective ........................... 3

II. Physical Education Activity 2 credits

- Approved Math elective ............................. 3

III. Area of Concentration 45 credits

- EE:130 Electric Circuits I ....................... 4
- EE:131 Electric Circuits II ....................... 4
- EE:132 Electronic Devices ........................ 5
- EE:233 Digital Logic ................................ 4
- EE:242 Introduction to Microprocessors ...... 3
- TEL:103 Introduction to Telecommunications ... 3
- TEL:104 Voice Communications .................. 3
- TEL:205 Digital Switching and Transmission .. 3
- TEL:206 Network Topology ......................... 3
- TEL:207 Transmission Media ....................... 5
- TEL:208 Telecommunications: Testing Methodologies .... 5
- TEL:209 Telecommunication System Operations ... 3

IV. Approved workplace experience may be submitted for a related technical course

Program total .............. 69 credits
Workplace Experience: Students may substitute up to six credit hours of appropriate and relevant co-op experience for technical courses, and/or elective, included in the program above. In order for the co-op credit to be counted for the degree requirement, co-op experience must be pre-approved by the department and the work must be supervised by an appropriate faculty member.

CERTIFICATE OF PROFICIENCY
Florissant Valley
This program is designed to provide a foundation in telecommunication and its basic concepts through the study of basic electrical, electronic, and digital theory as it pertains to the telecommunication industry. Students will develop an understanding of the various communication protocol and signaling techniques. Persons interested in this program should have math skills at the College Algebra level. Graduates of this program are qualified for positions as communication technicians in the telecommunication industry.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE:110</td>
<td>Technical Electric Circuits I</td>
</tr>
<tr>
<td>EE:111</td>
<td>Technical Electric Circuits II</td>
</tr>
<tr>
<td>EE:112</td>
<td>Technical Electronics I</td>
</tr>
<tr>
<td>EE:233</td>
<td>Digital Logic</td>
</tr>
<tr>
<td>MTH:124</td>
<td>Technical Mathematics I</td>
</tr>
<tr>
<td>MTH:134</td>
<td>Technical Mathematics II</td>
</tr>
<tr>
<td>TEL:103</td>
<td>Introduction to Telecommunications</td>
</tr>
<tr>
<td>TEL:104</td>
<td>Voice Communications</td>
</tr>
<tr>
<td>TEL:205</td>
<td>Digital Switching and Transmission</td>
</tr>
<tr>
<td>TEL:207</td>
<td>Transmission Media</td>
</tr>
</tbody>
</table>

Program Total .......... 37 credits

Telecommunications
Engineering Technology:
Basic Electronics Option

CERTIFICATE OF PROFICIENCY
Florissant Valley
This program offers basic courses in the fundamentals of electricity, electronics, computers and telecommunications to support entry-level positions in the telecommunications industry.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE:131</td>
<td>Engineering Technology Orientation</td>
</tr>
<tr>
<td>EE:101</td>
<td>Technical Electricity</td>
</tr>
<tr>
<td>EE:112</td>
<td>Technical Electronics II</td>
</tr>
<tr>
<td>EE:230</td>
<td>Analog and Digital Electronics</td>
</tr>
<tr>
<td>EE:242</td>
<td>Introduction to Microprocessors</td>
</tr>
<tr>
<td>TEL:103</td>
<td>Introduction to Telecommunications</td>
</tr>
</tbody>
</table>

Program total .......... 20 credits

Travel and Tourism
ASSOCIATE IN APPLIED SCIENCE DEGREE
Forest Park
The Travel and Tourism program prepares students with the knowledge, technical skills, and work habits required for a variety of entry-level positions with career ladder advancement opportunities.

General education courses in composition, communications, science, mathematics, social science, and accounting along with courses in geography, hospitality management, hospitality law, hospitality sales and marketing, airline reservations, cruise and tour arrangements, convention and meeting planning, and international travel, gives the student a strong foundation as they enter into this vast global industry.

Persons interested in the program should have an ability to effectively communicate with others. They should be able to work with computer automation and reference materials, while providing accurate information and assistance to the traveling public. Students should possess keyboarding skills and computer navigation knowledge, along with a very positive, friendly, customer-oriented attitude when functioning in an active work environment.

Graduates of the program can pursue positions with retail travel agencies, wholesale tour operators, Internet travel entities, group incentive businesses, corporate travel firms, meeting and event planning organizations, airlines, cruise lines, car rental services, hotels, destination management companies, and convention and visitor’s bureaus.

I. Career General Education 18 credits
   ENG:101 College Composition I ................................ 3
   COM:101 Oral Communication ................................... 3
   MTH:108 Elementary Applied Math ................................ 3
   PSY:200 General Psychology ..................................... 3
   XXX:xxx Missouri State Requirement ............................ 3
   XXX:xxx Science Elective ........................................ 3

II. Physical Education Activity 2 credits

III. Core Courses 37 credits
    ACC:100 Applied Accounting .................................... 3
    HRM:134 Introduction to the Hospitality Industry ........ 3
    TUR:104 Travel and Tourism Foundations I ................ 6
    TUR:105 Travel and Tourism Foundations II .................10
    TUR:106 Domestic and International Geography and Landmarks | 3
    HRM:201 Problems of Hospitality Management ................ 3
    HRM:209 Hospitality Sales and Marketing ................... 3
    TUR:230 International Travel and World Issues ............ 3
    TUR:236 Practicum - Travel and Tourism .................... 3

Electives 9 credits
    XXX:xxx Conversational Foreign Language .................... 3
    IS:151 Microcomputer Applications In Business .......... 4
    HRM:202 Hospitality Law ....................................... 3
    TUR:223 Selling Leisure Cruises and Tours ................ 3
    TUR:201 Convention and Meeting Planning ................. 3
    TUR:235 Certified Travel Associate (CTA) Prep Course and Test | 3

Program total .......... 66 credits
Travel and Tourism Foundations
CERTIFICATE OF SPECIALIZATION
Forest Park
This program is designed for students seeking entry-level positions in the field of travel and tourism. The curriculum is intended as a one-semester program covering travel industry terms, definitions, codes, industry segments, geographic mapping, and live computer automation on the Sabre Global Distribution System and Internet.

Persons interested in this program should possess keyboarding and computer navigation abilities, along with developed interpersonal and organizational skills.

Graduates are eligible to pursue entry-level employment opportunities with travel agencies, tour companies, airlines, car rental firms, meeting and event planning businesses, incentive travel organizations, and Internet travel entities.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>TUR:104 Travel and Tourism Foundations I</td>
<td>6</td>
</tr>
<tr>
<td>TUR:105 Travel and Tourism Foundations II</td>
<td>10</td>
</tr>
</tbody>
</table>

Program total: 16 credits

Voice/Data Communications Analyst
CERTIFICATE OF SPECIALIZATION
Forest Park, Meramec
This program is designed to provide a foundation in the concepts of managing a voice/data communications network. Students will develop an understanding of the different techniques used to transport voice or data to various locations and learn the part each of the hardware or software components in a system contributes to overall network functioning. The basic principles of designing or evaluating a network also are covered.

Persons interested in this program should be familiar with college-level algebra and enjoy dealing with abstract symbolic-oriented problems.

Graduates of the program are qualified for positions as voice/data communications analysts and designers.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:231 Introduction to Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>IS:232 Introduction to Telecommunications</td>
<td>3</td>
</tr>
<tr>
<td>IS:233 Components of Voice/Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>IS:234 Data/Voice Traffic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>IS:215 Introduction to Local Area Networks</td>
<td>3</td>
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</tbody>
</table>

Elective: 3

IS:217 Network Performance Monitoring
IS:235 Network Design and Installation
IS:237 Computer System and Network Security
IS:227 C Programming Language I
IS:229 UNIX

Program total: 18 credits

Web Development
CERTIFICATE OF SPECIALIZATION
Fiorissant Valley, Forest Park, Meramec
This Certificate of Specialization is designed for students seeking skills to qualify for positions as Web Developers. The certificate was developed to include topics that will build the programming and database skills a Web Developer needs in order to build and maintain a corporation’s Web site. Emphasis is placed upon object-oriented languages that are prevalently used for the Internet and intranets. The courses provide students with both the theoretical and technical knowledge and practical hands-on experience to be successful in the high demand Web Developer occupation.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS:139 Web Publishing Using Advanced HTML</td>
<td>3</td>
</tr>
<tr>
<td>IS:259 Introduction to JavaScript</td>
<td>3</td>
</tr>
<tr>
<td>IS:257 Advanced Database Design</td>
<td>3</td>
</tr>
<tr>
<td>IS:262 Advanced Web Development</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the focuses for six credit hours:

Focus: Small Business

IS:141 Graphics for the Web | 3

and one of the following courses:
MKT:101 Advertising Theory
MKT:104 Principles of Selling
MKT:203 Principles of Marketing
MCM:140 Introduction to Advertising
MCM:142 Applied Advertising | 3

Focus: Corporate IS Professional

IS:261 Object-Oriented Program Design | 3

and one of the following courses:
IS:251 Introduction to Java
IS:260 Visual C++ Application Development
IS:255 Advanced Visual Basic Programming | 3

Program total: 18 credits
DISTRIBUTION MAP

Lisa Taylor • Subdistrict 1
Dolores J. Gunn M.D. • Subdistrict 1
Denise R. Chachere • Subdistrict 2
Joann L. Ordinachev, Ph.D. • Subdistrict 3
Robert C. Nelson • Subdistrict 4
Michael P. Rohrbacker • Subdistrict 4

Joseph P. Cosand
Community College Center
300 South Broadway
St. Louis, MO 63102-2800
(314) 539-5000
(314) 539-5399 (TDD) General
(314) 539-5397 (TDD) Human Resources

St. Louis Community College
Florissant Valley
3400 Pershall Road
St. Louis, MO 63135-1408
(314) 513-4200
(314) 513-4552 (TDD)

St. Louis Community College
Forest Park
5600 Oakland Ave.
St. Louis, MO 63110-1316
(314) 644-9100
(314) 644-9093 (TDD)

St. Louis Community College
Meramec
11333 Big Bend Blvd.
St. Louis, MO 63122-5720
(314) 984-7500
(314) 984-7800 (TDD)

South County Education and
University Center
4115 Meramec Bottom Rd.
St. Louis, MO 63129-2126
(314) 984-7200
(314) 984-7200 (TDD)

West County Education Center
The Barn at Lucerne
930 Kehrs Mill Road
Ballwin, MO 63011-2402
(314) 984-7400
(314) 984-7400 (TDD)

William J. Harrison
Northside Education Center
4666 Natural Bridge Road
St. Louis, MO 63115-1923
(314) 951-9850
(314) 644-9093 (TDD)
**Key to Abbreviations and Page References**

The letters in the course descriptions indicate subject areas. The abbreviations, subject areas and page numbers are as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Area</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>Accounting</td>
<td>101</td>
</tr>
<tr>
<td>ANT</td>
<td>Anthropology</td>
<td>102</td>
</tr>
<tr>
<td>ARA</td>
<td>Arabic</td>
<td>102</td>
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<tr>
<td>ARC</td>
<td>Architectural Technology</td>
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<td>ART/AT</td>
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<td>Aviation Technology</td>
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<td>BIO</td>
<td>Biology</td>
<td>112</td>
</tr>
<tr>
<td>BE</td>
<td>Biomedical Engineering Technology</td>
<td>114</td>
</tr>
<tr>
<td>BIC</td>
<td>Building Inspection Technology</td>
<td>114</td>
</tr>
<tr>
<td>BUS</td>
<td>Business Administration</td>
<td>115</td>
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Course Descriptions

ABOUT THIS SECTION
The course descriptions for St. Louis Community College include descriptions of all credit courses offered at the Florissant Valley, Forest Park and Meramec campuses as well as other off-campus locations during the academic year. The courses listed herein are current as of January, 2005. For descriptions of courses approved after this date, consult the campus course schedules.

All of the courses listed in this section are not offered every semester. Information on where and when these courses are available may be found in the campus course schedules published each semester. Contact the campus Admissions office for more information.

READING PROFICIENCY PREREQUISITE
Many of the courses in this catalog include a prerequisite of “Reading Proficiency.” This means that before a student can enroll in one of these courses, he or she must demonstrate the ability to read at the college level. This ability will give the student a much better chance to pass the course, since many courses require a certain amount of reading, whether it be a textbook, journal articles, or reports from many sources.

The student can meet the Reading Proficiency prerequisite by scoring at least 77 on the Accuplaccer reading placement test, given as part of the admission process. Students who present an ACT composite score of at least 21 or an SAT verbal score of at least 500 meet the prerequisite. Students with a college reading course with a grade of at least “C” or who have earned a college degree (associate or baccalaureate) also meet the prerequisite. In addition, transfer students who present evidence of a grade of at least “C” in a three-hour college course numbered 100 or higher will be considered to have met the prerequisite. This applies also to students with dual credit courses taken in high school.

Students who do not meet this prerequisite in any of these ways must enroll for RDG:030, Introduction to College Reading. A grade of “C” or higher in this course meets the Reading Proficiency requirement. Students who are not native speakers of English can meet this prerequisite with at least a “C” in ENG:070, Academic English for NonNative Speakers 111.

This prerequisite applies to all students new to St. Louis Community College beginning fall semester, 2005.

COURSE LEVELS
The course numbering system uses an abbreviation to identify subject matter area and a three-digit number to identify course level. Course levels are defined as follows:

- 001-099 Developmental courses
- 100-199 Beginning level credit courses
- 200-299 Advanced level credit courses
- 500-599 Special problems credit courses
- 700-799 Non-credit continuing education courses

Example
DA:103 CLINICAL PRACTICE
DA indicates the subject area of Dental Assisting.
The number 103 indicates that the course is on the beginning level.

COURSE HOURS
Unless otherwise noted in the course description, the credit hours shown represent the number of lecture hours per week over a 15 week semester that the student will spend in class for a given course.
ACCOUNTING

ACC:100 APPLIED ACCOUNTING
An introductory course in the principles of accounting with emphasis on practice in bookkeeping techniques, designed to familiarize career students with the basic accounting system and the knowledge of keeping records. Prerequisite: Reading Proficiency.

ACC:110 FINANCIAL ACCOUNTING I
The emphasis of this course is on the measurement and presentation of financial data. The course focuses on preparation and use of corporate financial statements consistent with General Accepted Accounting Principles. Prerequisite: ACC:100 or one year of high school accounting or department approval, and Reading Proficiency.

ACC:111 FINANCIAL ACCOUNTING II
Reinforces ACC:110 Financial Accounting topics on reporting corporate long term liabilities, intercompany investments and the Statement of Cash Flows. Introduces Managerial Accounting with coverage of cost accounting systems, cost-volume-profit analysis, capital budgeting and other current managerial accounting topics. Prerequisite: ACC:110 with grade of “C” or better or department approval and Reading Proficiency.

ACC:114 MANAGERIAL ACCOUNTING
Emphasis is on evaluation and utilization of accounting data for the purpose of planning and controlling operations. Topics include financial statement analysis, methods of cost accumulation, budgeting, standard costs, direct costing, and cost-volume-profit analysis. Prerequisite: ACC:110 with grade of “C” or better or department approval and Reading Proficiency.

ACC:120 COMPUTER ACCOUNTING APPLICATIONS FOR BUSINESS
This survey course introduces various commercial accounting software as a hands-on environment. Topics covered include general ledger, receivables, payables, inventory, payroll, and importing and exporting accounting data to other software. The course provides an introduction to accounting spreadsheet and presentation software and the Internet. No previous computer experience is necessary. Prerequisite: ACC:100 and/or ACC:110 and/or Departmental approval and Reading Proficiency.

ACC:122 COMPUTER ACCOUNTING APPLICATIONS SPREADSHEETS
This course covers accounting applications using spreadsheet software as a tool in solving accounting problems and presenting and analyzing accounting data. Topics include using spreadsheet software to prepare accounting reports such as the income statement, balance sheet, statement of cash flow, and special purpose accounting reports for decision making. Financial reports are analyzed using spreadsheet software. In addition, auditing a worksheet and graphical analysis of accounting information is performed using the charting feature of spreadsheet software. Prerequisite: ACC:110 or Departmental approval and Reading Proficiency.

ACC:124 COMPUTER ACCOUNTING APPLICATIONS DATABASES
This course covers how to build a database for accounts receivable, accounts payable, inventory, fixed assets and payroll. Prerequisite: ACC:110 or Departmental approval and Reading Proficiency.

ACC:126 PAYROLL ACCOUNTING SYSTEMS
This course presents the federal rules and regulations governing employment compensation and payroll taxes. It presents all aspects of the payroll process including all required accounting entries. A computerized payroll system will be used throughout the course. Prerequisite: ACC:110 or departmental approval and Reading Proficiency.

ACC:203 COST ACCOUNTING
A study of the general principles of cost accounting with emphasis on process and job order cost accounting, methods of collection, preparation and interpretation of data, as well as preparation of records and reports. Prerequisite: ACC:111 or ACC:114 and Reading Proficiency.

ACC:204 INCOME TAX ACCOUNTING
A study of federal tax accounting; emphasis is placed on the procedure required to comply with the tax laws and to make the required tax returns. Income tax, social security and payroll tax accounting is included. Prerequisite: Reading Proficiency.

ACC:206 AUDITING
This course teaches the procedures of examination of financial statements by external and internal auditors. Topics include: auditing standards, development of working papers and reports, and development of sampling and original records examination. Prerequisites: ACC:208 and ACC:209 and Reading Proficiency.

ACC:208 INTERMEDIATE ACCOUNTING I
Study of financial accounting theory relating to asset, liability and owner’s equity accounts, including methods of valuation and the related effects on financial statements. Prerequisite: ACC:111 or ACC:114 and a grade of “C” or better or departmental approval and Reading Proficiency.

ACC:209 INTERMEDIATE ACCOUNTING II
A further study of financial accounting theory. Topics will include intangible assets, current and long-term liabilities, equity, earnings per share, and investments. Prerequisite: ACC:208 and a grade of “C” or better or departmental approval and Reading Proficiency.

ACC:210 INTERMEDIATE ACCOUNTING III
A further study of financial accounting theory. Topics will include interperiod income tax allocation, pension plans, changes in accounting principle, the cash flow statement and financial statement analysis. Prerequisite: ACC:208 and a grade of “C” or better or departmental approval and Reading Proficiency.

ACC:211 CURRENT TOPICS IN ACCOUNTING
Study of selected topics or current topics in Accounting. This course will provide an opportunity to explore various current issues in greater detail. Prerequisite: ACC:110 or departmental approval and Reading Proficiency.

ACC:212 NONPROFIT ACCOUNTING
The course addresses the principles, concepts and processes involved in the accounting treatment for nonprofit entities. Organizations discussed will include state and local governments, the federal government, college and universities, hospitals and health organizations, and other voluntary health and welfare organizations. Prerequisite: ACC:110 or Departmental approval and Reading Proficiency.

ACC:213 SURVEY OF BUSINESS TAXES
This is a survey course of Business Taxes. Topics include federal taxation of income, state taxation of income, state capital base taxes, state sales and use tax, federal and state employment related taxes and property taxes. Prerequisites: ACC:110 or Department approval and Reading Proficiency.

ACC:214 BUSINESS TAXES: RESEARCH AND PLANNING
This course concentrates on advanced business tax issues for partnerships, corporations, and S-corporations. Topics include tax planning, tax practice considerations, and tax research. Prerequisite: ACC:213 or departmental approval and Reading Proficiency.

ACC:291 ACCOUNTING INTERNSHIP
An Accounting Internship allows students to apply skills learned in the classroom, learn new skills, and explore career opportunities while supervised by an employer and a faculty member. Working as an intern for 120 hours under the supervision of an accounting professional, the student will have the opportunity to participate in the accounting functions of an accounting firm, accounting department, or other business unit. Prerequisites: Approval of Department Chair or Program Coordinator and Reading Proficiency.
ACC:292 ACCOUNTING INTERNSHIP II
This is an additional internship opportunity for accounting students to apply skills learned in the classroom, learn new skills, and explore career opportunities while supervised by an employer and a faculty member. Working as an intern for 120 hours under the supervision of an accounting professional, the student will have the opportunity to participate in the accounting functions of an accounting firm, accounting department, or other business unit. Prerequisite: Approval of Department Chair or Program Coordinator and Reading Proficiency.

ACC:293 ACCOUNTING INTERNSHIP III
This is an additional internship opportunity for accounting students to apply skills learned in the classroom, learn new skills, and explore career opportunities while supervised by an employer and a faculty member. Working as an intern for 120 hours under the supervision of an accounting professional, the student will have the opportunity to participate in the accounting functions of an accounting firm, accounting department, or other business unit. Prerequisite: Approval of Department Chair or Program Coordinator and Reading Proficiency.

ANT:101 INTRODUCTION TO PHYSICAL ANTHROPOLOGY AND ARCHEOLOGY
This course is designed to present the principles, theories, data and methods used by anthropologists and archaeologists in their attempts to study human evolutionary development. Generally speaking, three broad topics are covered: the mechanisms of evolution, human prehistory, and the fossil evidence of Homo Sapiens and ancestral forms. Prerequisite: Reading Proficiency.

ANT:102 INTRODUCTION TO CULTURAL ANTHROPOLOGY
In this course, students are introduced to the great diversity of human cultures. Economic, social, political and religious systems are compared, including such topics as the nature of culture, cultural ecology, magic and witchcraft, disease and curing, sex roles, and rites of passage. Problems resulting when traditional societies confront industrial societies or industrialization are discussed. Prerequisite: Reading Proficiency.

ANT:103 CULTURAL VARIATIONS
This course focuses on culture as a prime determinant of human behavior. To understand how culture “works” helps us to understand better the people who live in that culture. The basic concepts of culture are presented including adaptation to the environment, language and communication, social stratification, values and attitudes, customs and change. Economics, politics, religion and social systems are compared and evaluated with special application to living, visiting, and doing business in another culture. Prerequisite: Reading Proficiency.

ANT:104 FIELD STUDY IN ARCHAEOLOGY
This course is designed to introduce students to field methods in archaeology and to the methods of recording, storing, analyzing, and reporting archaeological findings. Experience is gained through participation in a field project. Prerequisite: Reading Proficiency.

ANT:105 FOUNDATIONS OF ARCHEOLOGY
A basic introduction to archaeology as an interpretive discipline. Why and how do archaeologists determine how old things are and which ancient cultures they belong to? How do they reconstruct the religions, economy, and politics of ancient civilizations? Using cases from ancient cultures around the world, this course will answer these and many other questions about the study of archaeology. Prerequisite: Reading Proficiency.

ANT:201 NORTH AMERICAN ARCHEOLOGY
This course is an introductory survey of prehistoric of North America, covering the ten thousand years of New World cultural developments from the original entry of man through the entrance of Europeans. Attention will be focused on the development of civiliza-

ANT:202 ETHNOGRAPHY: NORTH AMERICAN INDIANS
This course presents an introduction to the beliefs, customs and social organization of the Indians of North America. The course will deal with the Indians as they were before Columbus, their life ways, world views, and religion, economic patterns and technology, patterns of family life, war and confrontations with Europeans. Prerequisite: Reading Proficiency.

ANT:203 BIBLICAL ARCHEOLOGY
Archaeological discoveries and their relationship to the historical, cultural and religious traditions of the Old and New Testaments. Included will be Sodom and Gomorrah, Exodus, Conquest, Dead Sea Scrolls, and the Early Church. Prerequisite: Reading Proficiency.

ANT:204 ARCHEOLOGY OF MISSOURI
An introduction to the prehistoric Indian cultures of Missouri and adjacent areas from 20,000 BC to the coming of the Europeans. Examines the development of prehistoric cultures in Missouri from small bands of hunters to agricultural city builders. Prerequisite: Reading Proficiency.

ANT:205 CULTURAL CONTEXT OF EARLY CHRISTIANITY
The study of Roman culture, Jewish culture, and the Jesus Movement analyzing their material culture (tombs, temples, art, coins) and non-material culture (kinship system, political organization, economic system). Artifacts, architecture, and written records are our primary sources. Prerequisite: Reading Proficiency.

ANT:206 THE INCAN, AZTEC, AND MAYAN CULTURES
A survey of the cultural evolution of Meso America and Andean South America, from the early hunters to the high civilizations. This course will conclude with the sixteenth century Spanish conquest of these civilizations. Prerequisite: Reading Proficiency.

ANT:207 ANCIENT CIVILIZATION OF THE OLD WORLD
A survey of the earliest complex societies in the Old World during the Neolithic and Bronze Age. Emphasis will be focused on the cultures in Mesopotamia, Egypt, India, and China. Prerequisite: Reading Proficiency.

ARABIC
ARA:101 MODERN ARABIC I
This is a practical, beginning course in speaking and understanding ModernArabic. It is designed for persons who want to learn some Arabic, who want to travel to an Arabic-speaking country, or who have previous limited experience in Arabic. Attention is given to proper pronunciation, to practicing the words and basic structures most frequently in daily conversation and to learning the social conventions and Arabic culture necessary for interpersonal communication with native speakers of contemporary Arabic. Prerequisite: Reading Proficiency.

ARA:102 MODERN ARABIC II
ModernArabic is a continuation of ModernArabic I. Students complete the basic elements of Arabic grammar, increase their vocabulary and gain added facility in speaking and reading Arabic. Prerequisite: ARA:101 or the permission of the instructor and Reading Proficiency.

ARA:104 SPECIAL READINGS IN ARABIC
This class is a continuation of ModernArabic II and will focus on vocabulary acquisition and improving fluency of reading and understanding of Modern Standard Arabic, the formal language of the Arab people. This class will also introduce new grammatical structures and review those previously learned. Content of readings may vary from semester to semester. This class may be repeated for credit when topic is varied. Prerequisites: ARA:101 and ARA:102 or the permission of the instructor and Reading Proficiency.
ARCHITECTURAL TECHNOLOGY

ARC:001 BASIC ENVIRONMENTAL DESIGN AND DRAFTING 2
This is a basic course for persons with no previous architectural drafting experience. Tools, media, and symbols which are used in the fields of architecture, interior design, and landscape drafting are utilized. The class introduces practices such as scaling, time rationing, lettering, dimensioning, line contrast production and many drawing procedures necessary in later required program courses.

ARC:110 ARCHITECTURAL GRAPHICS 3
Foundation course in which quality drafting in the areas of line weight and quality, lettering, dimensioning, notes is taught. Drafting procedures such as orthographics, axonometrics, perspective, shade and shadow, topography, entourage rendering are introduced. Care and use of drafting and print tools and media are considered. (Approximate cost of supply kit - $50). Prerequisite: Reading Proficiency.

ARC:112 ARCHITECTURAL DESIGN AND PRODUCTION I 3
A small project is designed and detailed. Topics covered include: design method, design presentation techniques, construction details, and construction document set production. Verbal and graphic communication of ideas is developed. A portfolio of student work is begun. Prerequisite: ARC:110 with a grade of "C" or better and Reading Proficiency.

ARC:114 ARCHITECTURAL HISTORY AND THEORY 3
Course presents a survey of the history of shelter, monuments, other building types, towns and cities, and site design in relation to current architectural trends. Forces which shape the built-environment are studied. Tours of area sites or buildings may be included. Prerequisite: Reading Proficiency.

ARC:115 ARCHITECTURAL RENDERING AND PRESENTATION 3
Students gain experience in color and pattern rendering and presentation drawing technology. A variety of media and concepts is explored. Finished projects can be included in the architectural portfolio. Prerequisite: Reading Proficiency.

ARC:123 INTRODUCTION TO COMPUTER AIDED ARCHITECTURAL DRAFTING 3
Students learn to operate hardware and software generally in use in the architectural profession. A basic introduction to the systems will be presented. Hands-on use of the equipment will be emphasized. Prerequisite: Reading Proficiency.

ARC:209 MECHANICAL AND ELECTRICAL SYSTEMS I 3
An introduction to the physics and practical design aspects of plumbing systems, the systems and building form and fabric affecting the heat loss and gain and internal comfort of buildings. Prerequisite: MTH:124 or MTH:140 and Reading Proficiency.

ARC:211 ARCHITECTURAL DESIGN AND PRODUCTION II 3
A small project, usually a re-hab, is designed and detailed. Topics covered include design method, design presentation techniques, construction details and construction document production, verbal and graphic communication of ideas is continued. Students continue to develop a portfolio. Prerequisite: ARC:112 with a grade of "C" or better and ARC:123 and Reading Proficiency.

ARC:219 PROFESSIONAL ARCHITECTURAL PRACTICE 2
Exploration of issues regarding the function of the architectural office building: business practices and development, professional conduct and liability, project management, contact management, and marketing. Prerequisite: Reading Proficiency.

ARC:220 ARCHITECTURAL DESIGN AND PRODUCTION III 3
Students will work on commercial/institutional projects designed to reinforce skills in architectural rendering, model building, and construction document production. The student portfolio is completed.

Preliminaries: ARC:112, ARC:114, and ARC:115 with grades of "C" or better and Reading Proficiency.

ARC:222 SITE PLANNING AND LANDSCAPE DRAFTING 3
This course provides an introduction to the art of arranging the external environment to support human behavior. The student will learn skills used in architecture, engineering, landscape architecture, and city planning. Principles of plane surveys as related to site planning are also studied. Drafting skills are studied with emphasis on site plans and techniques of landscape drafting. Prerequisite: ARC:110 and Reading Proficiency.

ARC:223 INTERMEDIATE COMPUTER-AIDED ARCHITECTURAL DRAFTING 3
This course will deal with architectural office applications of computer-aided drafting involving orthographics, axonometrics, topography, 3-D modeling, walkthroughs, and rendering. Prerequisite: ARC:112 and ARC:123 or permission of department, or professional experience and Reading Proficiency.

ARC:224 ADVANCED COMPUTER-AIDED DRAFTING 3
This course focuses on the management aspects of computer-aided drafting. Topics include drawing file library management, screen, table and button menu creation and an introduction into USP Language. Menu customizing is a major topic of this course. Prerequisite: ARC:223 or permission of department and Reading Proficiency.

ARC:227 ARCHITECTURAL ESTIMATING 3
Course will deal with the preparation of architectural estimates on contemporary construction projects. The student will learn to analyze existing conditions, estimate quantities and costs, prepare quantity take-offs, and determine square/linear footage, areas. Prerequisite: Reading Proficiency.

ARC:228 ARCHITECTURAL COMPUTER RENDERING, MODELING, AND ANIMATION 3
This course provides an introduction to the use of computers in architectural illustration, rendering, and animation. The uses of both three-dimensional and two-dimensional rendering techniques are explored using 3-D computer programs as well as advanced CADD applications. The student will gain experience in creating solid and surface models of architectural forms. Lighting and material application theory are presented. Prerequisite: ARC:123 or department approval and Reading Proficiency.

ARC:229 ARCHITECTURAL SPECIFICATIONS, MATERIALS, AND METHODS 3
This course explores the process of selecting building materials, and introduces the Project Manual as an essential element of the Contract Documents. The student will learn how to research, evaluate, select and specify appropriate products for a variety of architectural projects. Prerequisite: Reading Proficiency.

ART

ART:100 ART APPRECIATION 3
This lecture course is intended to stimulate the student's visual, emotional and intellectual awareness of an artistic heritage and to acquaint the individual with the work of the great masters of the art world, both past and present. For non-art majors. Prerequisite: Reading Proficiency.

ART:101 ART HISTORY I 3
A survey of art from the prehistoric to medieval period. Prerequisite: Reading Proficiency.

ART:102 ART HISTORY II 3
Continuation of ART:101 covering the medieval period to modern art. Prerequisite: Reading Proficiency.
ART:103 HISTORY OF MODERN ART  
A survey of modern art beginning with the late 19th century and proceeding through the work of contemporary artists. Recurrent themes from the following periods will be examined: impressionism, post-impressionism, art nouveau, cubism, expressionism, dada, surrealism, abstract expressionism, pop and new realism. Pre requisite: Reading Proficiency.

ART:104 MAJOR BLACK ARTISTS  
This course examines the work and influence of select artists of African descent in the 19th and 20th centuries. This course will concentrate on the cultural, social, and political influences that these artists exhibited in their particular regions. Special attention will be given to the overall place of Black Art in the study of Art History. Pre requisite: Reading Proficiency.

ART:105 INTRODUCTION TO ART  
An introduction to basic design, drawing and painting in a studio-type learning situation. This course is for non-art majors. Pre requisite: Reading Proficiency.

ART:107 DESIGN I  
Emphasis on principles and elements of design through a series of assigned problems. Prerequisite: Reading Proficiency.

ART:108 DESIGN II  
The study of color, exploring various color theories and the historical application through a series of problems. Prerequisites: ART:107 and Reading Proficiency.

ART:109 DRAWING I  
This is a beginning course in fundamentals of drawing that includes an introduction to drawing principles, construction, proportion, form, value, perspective, composition, tools and media. Perception, visual awareness, sensitivity, attitude and judgment are all stressed. Pre requisite: Reading Proficiency.

ART:110 DRAWING II  
A continuation of ART:109, the fundamentals and principles of drawing, with more emphasis on organizational concepts and a variety of media. Prerequisite: ART:108 and Reading Proficiency.

ART:111 FIGURE DRAWING I  
Introduction to drawing from the human figure, analysis of structure, proportion and basic forms. Prerequisite: Reading Proficiency.

ART:112 FIGURE DRAWING II  
Continuation of ART:111. Emphasizes the use of various drawing media. Analysis of the structure of the human figure through anatomy. Prerequisite: ART:111 and Reading Proficiency.

ART:113 CERAMICS I  
A study of the basic principles of ceramics and ceramic sculpture with emphasis on hand-built techniques. As the student progresses, there will be study on the kick wheel. Pre requisite: Reading Proficiency.

ART:114 PAINTING I  
An introduction to oil painting from still-life objects, with emphasis on technique and the effective use of color. Composition and drawing will be stressed as they relate to painting. Pre requisite: ART:109 and Reading Proficiency.

ART:115 PRINTMAKING I  
This is an introductory course in traditional and contemporary printmaking. The student will be exposed to a variety of printmaking media from a selection of monotypes, linoleum blocks, wood blocks, collagraphs, dry points, etchings, and solvent transfers. Prerequisite: Reading Proficiency.

ART:116 SCULPTURE I  
A course based on individual development stressing the elements of sculpture: form, space, light, movement, texture, proportion in relation to the basic methods associated with the sculpture field. Pre requisite: Reading Proficiency.

ART:127 INTRODUCTION TO COMPUTER ARTS  
A course designed to familiarize with the identification of components as well as terminology in use, and the utilization of the methods and procedures involved with the variety of computer functions and their adaptations to the student’s career orientation, i.e. Commercial Art or Technical Illustration. The course will provide hands-on experience producing computer art pertinent to the respective career orientation, based upon current industrial/commercial application. Students must have completed three semesters of their respective visual arts program or have the approval of the instructor. Prerequisite: Reading Proficiency.

ART:131 COMPUTER ART STUDIO  
Computer Art Studio introduces students to the most common graphic software programs. Students will learn to navigate through the operating system and will gain basic experience with drawing, photo-imaging and page-layout applications. Pre requisite: Reading Proficiency.

ART:133 GRAPHIC DESIGN I  
This course is an introduction to graphic design with an emphasis on its history and its place in the advertising world. It will cover basic layout processes, typography, and the use of materials required in the field. Issues such as client needs, concept development, and ethical considerations will also be covered. Prerequisite: Reading Proficiency.

ART:134 GRAPHIC DESIGN II  
Students in this course will further explore the area of graphic design with an emphasis on various layout formats, the creative use of typography, and the historic aspects of graphic design. Concept origination and development are also addressed. The use of computers as a design tool will be employed. Pre requisites: ART:131 and ART:133 with grades of “C” or better, ART:107, and Reading Proficiency.

ART:135 GRAPHIC PRODUCTION I  
Students in this class will study the history of printing and the basics of how the various commercial printing processes work. The major emphasis will be on understanding mechanical art procedures, the selection of printing papers, and the development of dialog with printing suppliers. The proper use and preparation of art for spot color, multicolor and process color printing and pre-press file preparation will be stressed. Binding and finishing techniques as well as layout and design concepts will be discussed in relation to the finished printed product. Prerequisites: ART:131 and ART:133 with grades of “C” or better and Reading Proficiency.

ART:138 DRAWING FOR GRAPHICS I  
This drawing course fulfills the specific needs of graphic design students. It emphasizes the study of composition and design as they apply to the solution of graphic design and illustration problems. Prerequisites: ART:107, ART:109, ART:111 with grades of “C” or better and Reading Proficiency.

ART:151 INTERIOR DESIGN I  
An introduction to interior space planning through the use of scaled floor plans and elevations. Emphasis is placed on the design and selection of furnishings, textiles, accessories, and other interior components. Prerequisite: Prior or concurrent enrollment in ARC:110 and Reading Proficiency.

ART:152 TEXTILES  
A study of fabric selection, care and performance based on the characteristics of textile fibers, processing, color application, and finishes. Prerequisite: Reading Proficiency.

ART:153 HISTORY OF CULTURAL ENVIRONMENTS I  
The history of furniture styles, decorative arts, and architecture from Mesopotamia to French Empire will be taught. The emphasis is on materials, techniques, and aesthetics that make environments unique within their historical cultural environments. There will be slides with the lectures. A notebook of styles will be required. Prerequisite: Reading Proficiency.
ART:154 COMPUTER AIDED INTERIOR DESIGN 3
This course is an introduction to hardware and software used in the practice of interior design. AutoCAD will be used to create scaled drawings, specifications and programming documents. Prerequisite: Prior or concurrent enrollment in ARC:110 and Reading Proficiency.

ART:155 BATH DESIGN 3
This course is designed so that students can learn the special requirements necessary to design safe and functional bathrooms utilizing the standards established by the National Kitchen and Bath Association. Student develop comprehensive projects solving bathroom design problems. Prerequisites: ART:151 and Prior or concurrent enrollment in ARC:110 and Reading Proficiency.

ART:156 ADVANCED KITCHEN DESIGN 3
This course applies design principles and presentation standards in the planning and designing of efficient kitchen layouts. Following National Kitchen and Bath Association (NKBA) guidelines, students obtain "hands-on" experience studying proper cabinet, appliance, and fixture selection. Prerequisites: ARC:110 and ART:151 and prior or concurrent enrollment in ARC:112 and Reading Proficiency.

ART:157 PERSPECTIVE DRAWING AND RENDERING FOR INTERIOR DESIGNERS 2
Students gain experience in perspective drawing for interior spaces. A variety of media is explored in color and pattern rendering. Finished projects can be included in the student's portfolio. Prerequisite: Reading Proficiency.

ART:158 WORKPLACE LEARNING: INTERNSHIP IN KITCHEN AND BATH DESIGN 3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in functions of the kitchen and bath industry in order to enhance their preparation for entering the kitchen and bath design field. Minimum of 160 hours in the workplace throughout the term. Prerequisites: ART:155 and ART:156 and Reading Proficiency.

ART:159 PHOTOGRAPHY I 3
An introduction to the medium of black and white photography, encompassing control of the craft and the meaning of the image. Students should have a camera with full aperture and shutter speed controls. Prerequisite: Reading Proficiency.

ART:160 PHOTOGRAPHY II 3
An advanced study of photographic methods, composition, and darkroom techniques. (Students must have access to a camera, preferably a 35 mm). Prerequisite: ART:156 and Reading Proficiency.

ART:161 COLOR PHOTOGRAPHY 3
Theory of color, materials of color photography, and techniques of color printing. A portfolio of color prints will be produced by the student. Prerequisite: ART:156 and Reading Proficiency.

ART:162 HISTORY OF PHOTOGRAPHY 3
An introduction to the understanding of photography through the study of significant historical events, pioneers, techniques, equipment, and aesthetic trends that have influenced and modulated this art form. Prerequisite: Reading Proficiency.

ART:163 VISUAL LANGUAGE 3
Perception and photography will be the central concern of this course, beginning with the ways in which we gather information from visual, particularly photographic, images and use of visual elements to form mental constructs. While the implications are vital to visual communicators, this exploration would be valuable to anyone with a desire to further their critical perception. Students will examine publications, film, photographs and television as forces affecting twentieth century thought. Prerequisite: Reading Proficiency.

ART:164 DIGITAL PHOTOGRAPHY 3
This course is an introduction to digital photography. Students will learn digital camera basics, including the mechanics of the camera and printing with the computer. Students will follow guided exercises and projects and produce a portfolio of prints using digital printers. No darkroom work is included in this course. Students must provide their own digital cameras. Prerequisites: Reading Proficiency.

ART:165 ART FOR CHILDREN 3
The course will acquaint the student with art media and methods appropriate for children. The student will develop projects to promote the child's appreciation of art and to integrate art into the total curriculum. (Same course as EDU:120.) Prerequisite: Reading Proficiency.

ART:166 PRINTMAKING I 3
This course is a continuation of the exploration of the photographic process and techniques begun in Photography I and Photography II with a greater emphasis being placed on the creative process and the individual's perception and understanding of the elusive nature of images. Prerequisites: ART:165 and ART:166 and Reading Proficiency.

ART:171 ADVANCED KITCHEN DESIGN 3
An introduction to 3-D work, exploring the spatial qualities of mass, shape, volume. Pre requisite: ART:108 and Reading Proficiency.

ART:172 DESIGN IV 2
Advanced problems in various aspects of design. Prerequisite: ART:207 and Reading Proficiency.

ART:173 DRAWING III 3
Emphasis is placed on methods of achieving compositional unity in drawing. Balance, variety, rhythm, and repetition, some of the factors responsible for unified structure in drawing, will be examined on an advanced level. Pre requisite: ART:110 and Reading Proficiency.

ART:174 ADVANCED DRAWING 3
Research in drawing problems that will deal primarily with concept, media, style and composition. The human figure, still-life objects and surroundings will be used as topical sources. Pre requisites: ART:209 and ART:211 and Reading Proficiency.

ART:175 CERAMICS I 3
A study of the techniques of wheel-thrown ceramics and extensive experimentation with glazes and oxides. Prerequisite: ART:113 and Reading Proficiency.

ART:176 PAINTING II 3
A continuation of ART:114 with emphasis on composition and color. Knowledge will be developed for future individual study. Prerequisite: ART:114 and Reading Proficiency.

ART:177 CERAMICS II 3
A continuation of ART:115. In addition to continued exploration of media covered in Printmaking I, this course introduces students to additional printing techniques, from a selection of lithography, silk screen, photo-mechanical methods, chine colle and mixed media. Prerequisite: Reading Proficiency.

ART:178 SCULPTURE II 3
A continuation of the study of the elements of sculpture, stressing the more creative approach in terms of new methods and materials. Emphasis will be on the human and natural forms as a basis for academic and subjective analysis. Prerequisite: ART:118 and Reading Proficiency.
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**ART233 GRAPHIC DESIGN III**

This class will continue to examine the subject of graphic design with the emphasis upon the "hands-on" approach to finding creative solutions to complex visual communications problems. A professional approach to the discipline will be stressed. Prerequisites: ART:108 and ART:134 with grades of "C" or better; or prior or concurrent enrollment in ART:138 with a grade of "C" or better, and Reading Proficiency.

**ART234 GRAPHIC DESIGN IV**

This course is an advanced exploration of graphic design, with the emphasis upon creative problem solving and the use of professional practices. Students will learn to solve complex visual communication problems such as logo design, package design, point of purchase and publication design. Prerequisites: ART:135 and ART:233 with grades of "C" or better and Reading Proficiency.

**ART235 GRAPHIC PRODUCTION II**

This course is a continuation of Graphic Production I but with a greater emphasis on the proper preparation of electronic pre-press files for spot-color, multi-color and process-color print production. Students will execute print projects using the computer to create pre-press files for print production. They will also examine many advanced printing techniques, multiple page document preparation and the proper methods for sending files to printers. Prerequisites: ART:134 and ART:135 with grades of "C" or better and Reading Proficiency.

**ART236 TYPOGRAPHY**

This course will stress the refined use of typography as a design and communication tool. Students will study the history and classification of letterforms and employ this knowledge base in the creation of various typographical designs and presentations. Typical projects may range from letter and alphabet design to the use of typographical forms as the feature design elements in graphic designs or page layouts. Prerequisites: ART:131 and ART:133 with grades of "C" or better and Reading Proficiency.

**ART237 DRAWING FOR GRAPHICS II**

Students will build upon the principles covered in Drawing for Graphics I as they learn about additional techniques and materials necessary to explore drawing solutions to graphic design problems typically encountered in this field. Prerequisite: ART:139 with a grade of "C" or better and Reading Proficiency.

**ART238 ILLUSTRATION I**

This course is a comprehensive exposure to the methods and theories of illustrative drawing and painting as it is used in reproduction. A special emphasis will be placed on its application to advertising and publication design. Prerequisites: ART:131 and ART:138 with grades of "C" or better, or concurrent enrollment in same, and Reading Proficiency.

**ART239 ILLUSTRATION II**

This class exposes students to an experimental approach to illustrative drawing and painting with a strong emphasis on the creative use of materials and design principles. The use of computer drawing and painting programs may be stressed. Prerequisite: ART:239 with grade of "C" or better and Reading Proficiency.

**ART240 PUBLICATION DESIGN**

This course will introduce the student to the computer software used in the development of page design and layout. Emphasis will be placed on the production of basic business publications including newsletters, flyers, brochures, etc. General principles of page layout design will be studied including the placement of text, illustrations and logotypes and the important synthesis of these typographic elements. Prerequisite: ART:131 and ART:133 with a "C" or better, or permission of program coordinator, and Reading Proficiency.

**ART241 DRAWING FOR GRAPHICS III**

Students in this class will build upon the principles covered in Drawing for Graphics II and will learn techniques and materials required to explore drawing solutions using the human figure to fulfill critical needs in the illustration profession. Prerequisite: ART:238 and Reading Proficiency.

**ART242 FIGURE ILLUSTRATION**

Students in this class will learn to draw the human figure emphasizing the purpose or function needed for advertising or publishing assignments. Analysis will be made of the ideal human figure through structure, anatomy, expression, and its placement in an environment. Prerequisite: ART:111 and Reading Proficiency.

**ART243 PORTFOLIO DESIGN AND PROFESSIONAL PRACTICES**

This course will discuss the opportunities and procedures in the various fields of graphic design, illustration and advertising design. Students will be guided in the preparation of a portfolio of their work, in the development of a resume and related documents, and will learn practical interviewing techniques. The intent will be to prepare students to enter the art field with a confident and professional attitude. Prerequisite: Permission of Program Coordinator and Reading Proficiency.

**ART244 INTERIOR DESIGN II**

Problem analysis and design solutions for residential and commercial interiors focusing on user needs, specification procedures, and formal presentation techniques. Prerequisites: ART:151 and prior or concurrent enrollment in ART:112 and Reading Proficiency.

**ART245 RESIDENTIAL INTERIOR DESIGN**

An in-depth study of residential design emphasizing the relationship of designer and client from initial consultation through the design process to the final execution of the contracted agreement. Prerequisite: ART:251 and Reading Proficiency.

**ART246 HISTORY OF CULTURAL ENVIRONMENTS II**

This course is a continuation of the history of furniture, decorative arts, and architectural elements from Tudor England to current times. The emphasis is on materials, techniques, and aesthetics that make environments unique within their historical cultural environments. There will be slides with the lectures. A notebook of styles will be required. Prerequisite: ART:153 and Reading Proficiency.

**ART247 ARTIFICIAL LIGHT PHOTOGRAPHY**

Introduction to basic theories of illumination as applied to a variety of subject compositions. Use of the view camera with Polaroid film, negative and reversal films; production of professional quality prints. Prerequisite: ART:165 and Reading Proficiency.

**ART248 BLACK AND WHITE PRINTING LAB**

Guided study of black and white printing techniques geared to individual student needs and interests. Competence and excellence in technical techniques of "straight" photography are stressed, with extension into refinement and alternatives. Suggested co-requisite for students in Photography I who are interested in gaining greater accomplishment in one semester. Also open to students in other photography classes and those who have a basic knowledge of darkroom processes and would like further practice and direction. Prerequisite: ART:165 and Reading Proficiency.

**ART249 CONTEMPORARY CONCEPTS IN PHOTOGRAPHY**

A seminar class focusing on current issues and ideas about photography. Students will actually practice the most recent trends through assignments, augmented by visits to galleries, lectures, and demonstrations. Reading, writing and discussion of latest concepts will be central to the course. Prerequisite: ART:165 or ART:168 and Reading Proficiency. 2 lab hours, 4 other per week.
ART:268 LARGE FORMAT PHOTOGRAPHY 3
An introduction to view camera techniques as it is used indoors and outdoors. Hand held light meters will be required, their use explained and practiced. Use of view camera controls, handling of 4”x5” sheet film, printing from large format negatives, the making of fine quality prints and appropriate print presentation will be emphasized. Pre requisite: ART:165 or departmental approval and Reading Proficiency.

ART:269 FIELD PHOTOGRAPHY 3
The unique emphasis of this course is on photography subject matter found in nature. Trips to areas of high photographic interest will provide students the opportunity to explore and visually portray elements of natural environments. Macro and telephoto lenses would be particularly useful but not required. By calling this course “Field Photography” rather than “Nature Photography,” the attention is placed less upon subject matter than upon concern that the student learn to adapt and to photograph new situations. Pre requisite: ART:165 or departmental approval and Reading Proficiency.

ART:270 FIGURE FASHION PHOTOGRAPHY 3
Students will set up, light and photograph models in the studio. Control of lighting composition, props, different films and other materials will be included. Additional assignments will involve photographing models in a variety of situations outdoors and other locations. Evaluation of final photographs will encourage the development of professional standards. Pre requisite: ART:166 and Reading Proficiency.

ART:271 PORTRAIT PHOTOGRAPHY 3
Using both view cameras and small format 35 mm cameras, students will make portraits of people. Both natural and artificial studio lights will be used. Close-ups, environmental portraits, and group portraits will be covered. In class, students will use view cameras in a studio setting. Outside assignments will be done with students’ own cameras. Black and white and color materials may be used. Work will include processing of roll and sheet films, the making of quality prints and methods of print presentation. Students should have their own hand-held light meters and strobe for off-camera use. Pre requisite: ART:165 and ART:168 and Reading Proficiency.

ART:272 DOCUMENTARY PHOTOGRAPHY 3
A study of photography as it dramatizes issues and their implications. The methods of approach used by documentary photographers will be discussed. Students will view their work and consider the possible impact of it on society. Students will use their cameras to study issues in their own environments. Finished photographs will be exhibited in appropriate relation to the topics with which they are concerned. Pre requisite: ART:165 and Reading Proficiency.

ART:273 ARCHITECTURAL PHOTOGRAPHY 3
The subject matter of this photography class will be cityscapes, buildings of all types, interiors and exteriors. View cameras will be used in class. Class will meet on campus as well as travel to various locations in the city to photograph. Use of view camera operations to control perspective will be emphasized. Assignments outside of class will be done with students’ own cameras. A moderately wide angle lens (28mm-35mm focal length on 35mm camera) would be useful but is not required. Students need their own light meters. Black and white materials will be used. Work will include processing of roll and sheet films, the making of fine quality prints and appropriate print presentation. Prerequisites: ART:165 and ART:168 and Reading Proficiency.

ART:274 PRESENTATION GRAPHICS 3
Introduction to the creation of presentation quality charts, graphs, graphics and typographic designs and the use of vector-based computer art programs. Emphasis is on learning to use computer tools and developing skills which are necessary for effective communication of ideas through the creative use of layout and color, typography and graphic imagery. Prerequisites: ART:240, ART:238, ART:165 and ART:127 or with permission of instructor and Reading Proficiency.

ART:275 PHOTO IMAGING I: PHOTOSHOP 3
This course is an investigation of processing of continuous tone image files. Software tools and adjustment controls will be learned. Students will investigate scanning, color and tonal management, image repair and compositing, and printing. A portfolio of prints will be created emphasizing the individual expressiveness of the student. Pre requisite: ART:131, ART:107 (may be taken concurrently), or demonstration of proficiency by exam and Reading Proficiency.

ART:280 FINAL CUT 3
Students will produce professional quality video content using Macintosh Final Cut Pro non-linear editing software. Students will create digital video content and process project through the software. Clips will be edited; sound, transitions and titles will be added. Students will conceive, photograph, edit and complete a short movie. Prerequisites: ART:275 and Reading Proficiency.

ART:281 PROFESSIONAL PREPARATION 3
Opportunities in various fields of photography and business procedures will be discussed. Students will prepare a portfolio in the form of prints, slides and possible video tape format. Students will be guided in the preparation of resumes and practice interviewing techniques. Emphasis will be on orienting students to enter the field with a confident and professional attitude. Pre requisite: ART:165 and Reading Proficiency.

AT:100 HARDWARE CONFIGURATION AND TROUBLESHOOTING:MACINTOSH WINDOWS 1
This course will address setting up the computer and connecting peripheral devices such as cameras, scanners and printers; partitioning the hard drive, adding RAM, installing software and virus protection, and troubleshooting simple problems. Advanced topics include networking and using a server. Prequisites: ART:131 or ART:127 and Reading Proficiency. 1 lecture, 1 lab hour per week.

AT:101 COLOR MANAGEMENT 3
This course investigates the use of dedicated software to analyze and color calibrate the computer monitor with related peripheral devices such as cameras, scanners, printers and recorders. Students will learn the principles of color management, and how to create color signatures or profiles for each device and to integrate the system for color accuracy and consistency. Pre requisite: ART:275 and Reading Proficiency.

AT:104 ELECTRONIC PHOTO STUDIO 3
Investigates electronic (filmless) photography, both in the studio and on location, and high resolution scanning of traditional film media. Current camera technologies are considered. Students will examine the advantages of either direct capture or scanning original film. Students will be required to demonstrate proficiency in the application of the equipment by completing assigned projects. Prequisite: ART:275, ART:167 and Reading Proficiency.

AT:105 DIGITAL PRINTING 3
This course is a survey of digital printing possibilities. Methodologies for converting electronic files to printed media are investigated. Varieties of printing technologies are evaluated for appearance, color fidelity, resolution, saturation and permanence. Where applicable to the process examined, variations in media (paper, canvas or film) will be tested. Prequisite: ART:275, ART:165 and Reading Proficiency.

AT:106 TWO DIMENSIONAL COMPUTER ANIMATION:ADOBE AFTER EFFECTS 3
This course will instruct students in the use of digital still and motion images combined with sound and special effects to create animated, multimedia sequences. Prerequisite: ART:275 and Reading Proficiency.
AT:108 COMPUTER PAINTING AND DRAWING: COREL PAINTER 3
Students will utilize a variety of computer drawing software programs to create drawings utilizing digitizing tablets. Assignments will include still life as well as the human figure. The techniques of using the pressure sensitive drawing tablet will be investigated to allow for the creation of expressive line, mass and shading. A portfolio of drawings in both color and monochrome will be submitted at the conclusion of the course. Prerequisites: ART:131 with a grade of "C" or better, ART:109 and Reading Proficiency.

AT:109 UNIVERSAL DOCUMENT EXCHANGE: ADOBE ACROBAT 3
Students will create documents that can be exchanged in multiple software and web applications, while preserving fonts, colors, images, layouts and all original formats. Students will explore linking and logic tree structure for the production of interactive computer based training as well as interactive business communication and collaboration. Prerequisite: ART:131 and Reading Proficiency.

AT:110 COMPUTER DRAWING I: ILLUSTRATOR 3
This course is an investigation of vector imaging software used for the creation of drawings, typography and logotypes. Tools, palettes and menus will be learned, and methods of creating original expressive works will be developed. Students will investigate scanning reflective art, tracing, creating shapes, line control, color fills, and printing. Prerequisite: ART:109 and ART:131 with grades of "C" or better, and Reading Proficiency.

AT:111 WATERCOLOR I 3
A foundation course covering basic watercolor techniques and materials including washes, wet-into-wet, glazing, shading, color mixing and layering. Course will emphasize development of skills, diverse approaches and an individual style. Through the study of both contemporary and traditional watercolors, students will become familiar with the amazing potential of this medium. Class will paint a variety of subjects including still lifes and nature. Prerequisite: Reading Proficiency.

AT:112 BOOKMAKING 3
Students will learn about the history and aesthetics of books, and will explore (through hands-on studio production) bookmaking and binding techniques. Form, concept, craft, problem-solving ability, creative experimentation, and historical knowledge will all be stressed. Prerequisite: Reading Proficiency.

AT:113 COMPUTER DRAWING II: ILLUSTRATOR 3
This course will refine the basic understanding of vector imaging, and incorporate specialized functions for use in professional design. Students will perform advanced work using vector imaging software that will explore techniques which will speed production and enhance the functionality of the vector application. Technical issues related to design, print and publication, charts and plans will be addressed. Prerequisite: AT: 120 with a grade of "C" or better and Reading Proficiency.

AT:114 AIRBRUSH I 2
A comprehensive study of the airbrush and its specialized uses. Illustrations, technical rendering, and advertising design projects will be demonstrated through airbrush technique. Prerequisite: Reading Proficiency. 4 lab hour per week.

AT:115 COMMUNICATION AND DESIGN FOR THE WWW I 3
Students will learn to use the elements of graphic design to produce Web pages that effectively deliver art and information for business/organizational communications. Prerequisite: ART:133 and ART:131 or ART:227 and Reading Proficiency.

AT:116 COMPUTER ART APPLICATIONS 3
An introduction to the use of computer graphics software for the creation of artwork applicable to the advertising and graphic design industry. No previous computer experience is necessary, but some art background is required. Prerequisite: ART:108 or equivalent work experience and Reading Proficiency.

AT:117 COMMUNICATION AND DESIGN FOR THE WWW II 3
Expand Web site interactivity. This course explores methods of refining basic web site creation and incorporating sophisticated techniques such as cascading style sheets, animation and sound plug-ins, and addressing browser differences. Prerequisite: MCM:135 or AT:135 or IS:135 and Reading Proficiency.

AT:118 WWW SPECIAL TOPICS 3
This course specializes in advanced enhancements to World Wide Web design. Students will learn to encode properties that make the web site more dynamic and interactive. Students will use the latest software to enhance web pages with interactive and animation techniques. Prerequisite: MCM:135 or AT: 154 and Reading Proficiency. Either course may be taken concurrently.

AT:119 3D MODELING I: SURFACE MODELING 3
This course focuses on the development of three-dimensional models for use in multimedia, industrial design, and character development. Creation of 3D objects and spatial environments will be studied, in addition to photorealistic rendering, texture mapping and lighting techniques. Prerequisites: MCM:127 or AT: 154 and Reading Proficiency.

AT:120 COMPUTER DRAWING II: ILLUSTRATOR 3
This course is an investigation of vector imaging software used for the creation of drawings, typography and logotypes. Tools, palettes and menus will be learned, and methods of creating original expressive works will be developed. Students will investigate scanning reflective art, tracing, creating shapes, line control, color fills, and printing. Prerequisite: ART:109 and ART:131 with grades of "C" or better, and Reading Proficiency.

AT:121 WATERCOLOR I 3
A foundation course covering basic watercolor techniques and materials including washes, wet-into-wet, glazing, shading, color mixing and layering. Course will emphasize development of skills, diverse approaches and an individual style. Through the study of both contemporary and traditional watercolors, students will become familiar with the amazing potential of this medium. Class will paint a variety of subjects including still lifes and nature. Prerequisite: Reading Proficiency.

AT:122 BOOKMAKING 3
Students will learn about the history and aesthetics of books, and will explore (through hands-on studio production) bookmaking and binding techniques. Form, concept, craft, problem-solving ability, creative experimentation, and historical knowledge will all be stressed. Prerequisite: Reading Proficiency.

AT:123 COMPUTER DRAWING II: ILLUSTRATOR 3
This course will refine the basic understanding of vector imaging, and incorporate specialized functions for use in professional design. Students will perform advanced work using vector imaging software that will explore techniques which will speed production and enhance the functionality of the vector application. Technical issues related to design, print and publication, charts and plans will be addressed. Prerequisite: AT: 120 with a grade of "C" or better and Reading Proficiency.

AT:124 AIRBRUSH I 2
A comprehensive study of the airbrush and its specialized uses. Illustrations, technical rendering, and advertising design projects will be demonstrated through airbrush technique. Prerequisite: Reading Proficiency. 4 lab hour per week.

AT:125 COMMUNICATION AND DESIGN FOR THE WWW I 3
Students will learn to use the elements of graphic design to produce Web pages that effectively deliver art and information for business/organizational communications. Prerequisite: ART:133 and ART:131 or ART:227 and Reading Proficiency.

AT:126 COMPUTER ART APPLICATIONS 3
An introduction to the use of computer graphics software for the creation of artwork applicable to the advertising and graphic design industry. No previous computer experience is necessary, but some art background is required. Prerequisite: ART:108 or equivalent work experience and Reading Proficiency.

AT:127 COMMUNICATION AND DESIGN FOR THE WWW II 3
Expand Web site interactivity. This course explores methods of refining basic web site creation and incorporating sophisticated techniques such as cascading style sheets, animation and sound plug-ins, and addressing browser differences. Prerequisite: MCM:135 or AT:135 or IS:135 and Reading Proficiency.

AT:128 WWW SPECIAL TOPICS 3
This course specializes in advanced enhancements to World Wide Web design. Students will learn to encode properties that make the web site more dynamic and interactive. Students will use the latest software to enhance web pages with interactive and animation techniques. Prerequisite: MCM:135 or AT:154 and Reading Proficiency. Either course may be taken concurrently.

AT:129 3D MODELING II: SPLINES AND NURBS 3
This course expands the repertoire of 3D modeling techniques established in Modeling I. Spline based techniques using spline patches and NURBS are the primary emphasis. The ability to digitize physical models will also be explored, with an eye toward the strengths and weaknesses of this alternative approach. Texturing techniques are further explored with the use of interactive 3D paint software. Rendering methods are investigated with an emphasis on ray-tracing. Prerequisite: AT: 146 and Reading Proficiency.

AT:130 GRAPHICS LAYOUT I 3
This course provides training in graphic layout for non-art majors. Emphasis is placed upon style, form and content in the process of designing and organizing material to be printed. This course includes, as well, a study of the hardware components of the micro-computer system of the Macintosh computer. Pre requisite: Reading Proficiency.

AT:131 GRAPHICS LAYOUT II 3
This course provides continued training for non-art majors in the layout and design process for application to printed material. This course includes an introduction to the principles of system software for micro-computers with special emphasis on those designed for the Macintosh computer. Pre requisite: AT:146 and Reading Proficiency.

AT:132 DESIGNER RESOURCES 3
This course is to familiarize the student or professional with industry and trade resources available for the design of interior spaces. It will include lectures by suppliers relating to flooring, lighting, wallcoverings, furniture, window and ceiling treatment, fabric, architectural fixtures and accessories. Prerequisite: Reading Proficiency.

AT:133 LIGHTING DESIGN 3
This is a lecture/study course where students will learn methods of successful lighting design and applications of lighting details to working drawings for residential and commercial environments. Students will learn specifications and how to write a lighting schedule. Prerequisite: Reading Proficiency.

AT:134 INTERIOR DECORATION 3
A study of our heritage in homes, housing choices today, and the design of today's home interiors. The principles and elements of design will be applied to the selection of color, fabric, furniture and accessories used to create functional and aesthetic interiors. Prerequisite: Reading Proficiency.
AT:154  CAMERA AND LIGHTING TECHNIQUES FOR 3-D DESIGN  3
This course increases students’ awareness and skills in designing lighting configurations for 3D software projects. Students will study lighting behavior under actual studio conditions. The results of studio observation will be translated to the lighting controls in 3D Design software. Prerequisite: ART:275, ART:165 and Reading Proficiency.

AT:160  DIGITAL CAPSTONE  3
The student will enroll in the Capstone Course as the culmination of their certificate program. This course will allow the student to explore a thesis project which will demonstrate the skills and creativity fostered in each discipline. Capstone courses will include students from all areas of specialization. Prerequisites: Digital Photography Option - AT: 104 and AT: 105, Electronic Publication Option - AT:120, ART:241, ART:236, World Wide Web Option - AT: 144, Fine Art Option - AT: 108, AT: 120, AT: 105, 3D Design and Animation Option - AT: 236. Reading Proficiency for all options.

AT:175  VIDEO ART I  3
An investigation into video art as a personal expression media for the individual artist, including work with computers, sound equipment, photography, and other tools used in the contemporary art world. Students will have the opportunity to investigate these technologies as they combine the various media to make artistic statements based on personal concerns and aesthetic decisions. This course is and/or “consumer” equipment as a creative media. Prerequisites: ART:165 and ART:239 or permission of instructor and Reading Proficiency.

AT:201  MIXED MEDIA  3
An introduction to mixed media (assemblage) art; the complementary component for design, drawing and figure drawing. An incorporation of all aspects of picture-making with an emphasis on experimentation, process and concepts with paint integration in the visual arts. Prerequisites: ART:107 and ART:109 and Reading Proficiency.

AT:210  DRAWING PROBLEMS  3
This course focuses on drawing problems of an advanced nature. It will stress the continued development of individual ideas in ART:210. Prerequisite: ART:210 and Reading Proficiency.

AT:212  SPECIAL TOPICS IN PHOTOGRAPHY  3
This course will offer the students a variety of topics on a rotating semester basis that are not included in the current elective curriculum from bookmaking to Polaroid, transfer and emulsion lifts, to medium format photography, to photographic lighting. Prerequisites: ART:165 and ART:166 and Reading Proficiency.

AT:213  ADVANCED CERAMICS  3
A self-directed learning experience for students. Course work may include throwing, glaze formulation, hand-building and kiln firing. Prerequisite: ART:213 and Reading Proficiency.

AT:215  ADVANCED PRINTMAKING  3
A continuation of ART:115 and ART:215. Students will pursue a more individual course of instruction and portfolio development in the printmaking media. The student will choose from media taught in ART:115 and ART:215 to develop a portfolio of professional prints. Prerequisite: ART:215 or permission of coordinator and Reading Proficiency.

AT:219  FIGURE SCULPTURE  3
This course is an intensive exposure to creating figurative sculpture. Students will build basic armatures for both portraits and figures and work in clay from the model. Basic methods of plaster casting (waste molds) may be offered as an option at the end of the semester. Prerequisites: ART:111 and Reading Proficiency.

AT:221  WATERCOLOR II  3
An expansion and application of the basic watercolor techniques from the foundation course AT:121 through a series of paintings. Course will emphasize color theory, composition and development of an individual style along with study of master watercolorists both past and present. Students will paint a variety of subjects including still lifes, landscapes and the human figure. Development of individual response and fluency of technique will be emphasized. Prerequisite: AT:121 or permission of coordinator and Reading Proficiency.

AT:225  WATERCOLOR III  3
An expansion of AT:221. The self-motivated student will work on advanced watercolor techniques in specific assignments and in self-directed paintings. Course will emphasize advanced color theory and development of content, subject matter, personal style and the ability to self-critique, with significant input from the instructor. Prerequisite: AT:221 or permission of coordinator and Reading Proficiency.

AT:226  WATERCOLOR IV  3
An expansion of AT:225. The advanced and self-motivated student will work on specific assignments and on self-directed paintings with significant input from the instructor. Emphasis will be on using the watercolor medium to create sophisticated compositions, a thematic body of work and a personal style. Prerequisite: AT:225 or permission of coordinator and Reading Proficiency.

AT:227  3-D STUDIO  3
This course provides students with the opportunity to pursue extended study in 3-dimensional studio disciplines. Prerequisites: AT:213 or ART:216 and Reading Proficiency.

AT:228  FIGURE PAINTING  3
Drawing and painting from observation of the model in a variety of media. Emphasis will be placed on understanding the inherent structural and formal problems involved with depicting the human figure in its environment. Prerequisite: ART:112 with a grade of “C” or better and Reading Proficiency.

AT:229  ADVANCED PAINTING PROJECTS  3
This course will develop the painting and perceptual skills of students. The course is taught with an emphasis on individual study. Prerequisite: ART:214 and Reading Proficiency.

AT:231  AIRBRUSH II  2
A continuation of AT:131. Prerequisite: AT:131 and Reading Proficiency.

AT:233  STORYBOARDING/ANIMATICS  2
This course is an introduction to pre-production planning for special effects and animation as applied to multimedia, interactive media, video and film. The focus of the class will be communicating the drama of movement and special effects through effective design and pacing. Course topics include storytelling, storyboarding formats and flowcharts, along with sound track and script interpretation. Prerequisite: ART:131, ART:239 with grades of “C” or better and Reading Proficiency.

AT:234  COMPUTER ANIMATION I  3
This course is an introduction to 3D computer animation. Students will learn basic computer animation techniques. By producing short animated segments, students will learn animation fundamentals such as: keyframing, lighting, camera work, texturing, sequencing, rendering, and post production. Prerequisites: ART:243 and ART:138 with grades of “C” or better and Reading Proficiency.

AT:235  COMPUTER ANIMATION II  3
A continuation of 3D Animation I. Students further their skills in 3D Animation II by studying new techniques such as: 3D camera tracking, advanced keyframing, photo realistic rendering, advanced post production, and an introduction to character animation. Prerequisite: AT:234 and Reading Proficiency.

AT:236  COMPUTER ANIMATION III: CHARACTER ANIMATION  3
Advanced 3D design and animation techniques with software specifically designed for motion picture quality output. The course covers modeling, lighting, texture mapping, path and basic animation and rendering. Produce a model and an animation sequence by the end of the course. Prerequisite: AT:235 and Reading Proficiency.
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**Description:**

AT:242 HISTORY OF GRAPHIC COMMUNICATIONS
This is a survey course on the history of Graphic Communications. This course will begin with the development of language and will trace the evolution of word and image throughout history using the works of designers and illustrators that have influenced the continuing development of the discipline. Prerequisite: Reading Proficiency.

AT:246 ADVANCED COMPUTER ART APPLICATIONS
This course is for individuals who wish to further explore the use of computer graphics as they can be applied to the advertising and business communication industries. Considerable latitude will be given as to areas of concentration, but all studies will stress the creative possibilities of the medium. Prerequisite: ART:131 with a grade of "C" or better and Reading Proficiency.

AT:247 BROADCAST GRAPHICS
An introduction to commercial broadcast design and techniques. Students will explore methods of combining computer generated type and art with live video images for advertising, editorial, and informational purposes. The class also includes an introduction to 3-dimensional video animation programs. Prerequisites: ART:238, ART:240, ART:165 and ART:127 or permission of instructor and Reading Proficiency.

AT:248 AUDIO/VISUAL MULTI-IMAGE PRESENTATIONS
This course introduces students to animated presentations which combine music and narration with photography, video, and computer art. Students will work with scripts, storyboards, soundtracks, computer graphics and photographic/videographic images to develop projects for multi-image slide shows and video presentations in the fields of advertising, motivation, education and entertainment. Prerequisite: ART:240, ART:238, ART:165 and ART:127 or with permission of instructor and Reading Proficiency.

AT:251 COMPUTER AIDED KITCHEN AND BATH DESIGN
Utilizing 3-D design software, the students will learn to layout, design and specify residential kitchens and baths. They will create 2-D and 3-D visual presentations and renderings of kitchens and bath interiors. Some computer knowledge or industry based knowledge of kitchen and bath design is recommended. Prerequisite: ART:151 and Reading Proficiency.

AT:252 ADVANCED AUTOCAD FOR INTERIOR DESIGN
This course will reinforce AutoCAD use by designing on the computer. The students will integrate auxiliary software, do basic perspectives and color plotting of representation, and will learn vendor type add-on software. The students will use the Internet for research and drawing transmission. Pre requisite: ART:154 and Reading Proficiency.

AT:253 ADVANCED PROBLEMS IN INTERIOR DESIGN
Minimum of 48 hours of supervised independent work. The student will choose a project in either a residential or a commercial area; it will include a complete interior design problem and will involve both layout and client presentation techniques. Pre requisite: Satisfactory completion of first year of program and Reading Proficiency.

AT:254 WORKPLACE LEARNING: INTERIOR DESIGN
This course requires a minimum of 150 hours of field experience. The student's training in interior design will be under professional and educational supervision. The field experience can be either part-time during a regular semester or, preferably, during the summer session. In either case the work must be spread over at least six weeks. Prerequisites: Satisfactory completion of the first year of the program. Departmental approval required. Reading Proficiency.

AT:267 COLOR PHOTOGRAPHY II
Advanced instruction in the theory of color, materials of color photography, and techniques of color printing. Students will work with transparencies and color reversal materials and explore large format color processes. A portfolio of color prints will be created by the student. Prerequisites: ART:167 and Reading Proficiency.

AT:275 VIDEO ART II
A continued investigation into video art as a personal expressive media for the individual artist, including work with computers, sound equipment, photography, and other tools used in the contemporary art world. Students will have the opportunity to investigate these technologies as they combine the various media to make artistic statements based on personal concerns and aesthetic decisions. This course is specifically for the fine artist who wishes to use “low end” and/or “consumer” equipment as a creative media. Emphasis is on relatively complex projects and collaborative ventures, and further developing an individual style of personal expression with these strategies and technologies. Prerequisites: AT:175 or permission of instructor and Reading Proficiency.

AT:276 PHOTO IMAGING II: PHOTOSHOP
This course explores advanced methods of working with continuous tone images in an efficient manner. Topics include refinements in tonal and color adjustment tools, masking tools, typography tools, color modes, sharpening procedures, and compositing techniques. A portfolio of color images will be produced by the end of the course emphasizing the individual expressiveness of the student. Prerequisites: ART:275, ART:108 (may be taken concurrently) and Reading Proficiency.

AT:277 PHOTO IMAGING III: PHOTOSHOP
This course explores advanced methods of working with continuous tone images. In addition to a general review of the image processing software, topics include such subjects as incorporating color management into the workflow, predictive evaluation of numeric density readings, and a survey of printing device parameters. A portfolio of color images will be produced by the end of the course emphasizing the individual expressiveness of the student. Prerequisites: AT:276 and Reading Proficiency.

AT:279 NON-SILVER PHOTOGRAPHY
An introduction to processes which use light sensitive materials other than silver bromide paper to produce imagery. Working from photographic negatives, students will have the opportunity to produce prints using the following methods: Van Dyke Brown printing, Cyanotype, Kwik-print and Photoscreen printing. Prerequisites: ART:165 or departmental approval and Reading Proficiency. 6 studio hours per week.

AT:280 ADVANCED PHOTOGRAPHY
This class is an advanced studio course that will emphasize both the conceptual and technical challenges of creating a cohesive, related body of work for either a portfolio or exhibition. Prerequisites: ART:165 and ART:166 and Reading Proficiency.

**AUTOMOTIVE TECHNOLOGY**

AUT:150 AUTOMOTIVE FUEL AND INDUCTION SYSTEMS
This course is a study of fuel and induction systems which includes gasoline fuel delivery systems, and diesel engines. Diagnosis and repair techniques as well as basics of the control systems will be covered. Corequisite: AUT:151

AUT:151 AUTOMOTIVE ENGINE OPERATION
This course will be concerned with theory, design and repair procedures of the automotive engine including valves and lower engine service.

AUT:156 AUTOMOTIVE ELECTRICITY
This course is a study of the fundamentals of automotive electricity, magnetism, induction, and the use of wiring diagrams. This course also includes operating principles, diagnosis and repair of starting systems, charging systems, ignition systems, batteries, lighting and accessory circuits. Prerequisite: Reading Proficiency.

AUT:158 CHARTS, DIAGRAMS AND HANDBOOK USAGE
This course teaches the use of handbooks, with emphasis upon interpreting specifications and automotive charts and diagrams.
A U T:163  COOPERATIVE WORK EXPERIENCE I 7
Theory and instruction received in the previous courses taught with a Ford emphasis are applied to work in the sponsoring dealership. Coop consists of a minimum of 280 clock hours at the dealership, typically worked at 40 hours per week for a 7 week period. Prerequisites: AUT:156 and AUT:168.

A U T:164  COOPERATIVE WORK EXPERIENCE II 7
A continuation of AUT:163 with an emphasis on the theory and instruction received in the previous courses applied to work in the sponsoring dealership. Coop consists of a minimum of 280 clock hours at the dealership, typically worked at 40 hours per week for a 7 week period. Prerequisites: AUT:163, AUT:167 and AUT:169.

A U T:165  COOPERATIVE WORK EXPERIENCE III 7
A continuation of AUT:164 with an emphasis on the theory and instruction received in the previous courses applied to work in the sponsoring dealership. Coop consists of a minimum of 280 clock hours at the dealership, typically worked at 40 hours per week for a 7 week period. Prerequisites: AUT:164, AUT:258, AUT:259.

A U T:166  COOPERATIVE WORK EXPERIENCE IV 7
A continuation of AUT:165 with an emphasis on the theory and instruction received in the previous courses applied to work in the sponsoring dealership. Coop consists of a minimum of 280 clock hours at the dealership, typically worked at 40 hours per week for a 7 week period. Prerequisites: AUT:165, AUT:258 and AUT:259.

A U T:167  AUTOMOTIVE ELECTRONICS 3
This course deals with advanced electrical systems including basics of electronic engine control systems, electronic functions, electronic system diagnosis and repair. Prerequisites: AUT:156. 2 lecture, 4 lab hours.

A U T:168  SUSPENSION AND STEERING I 3
This course will be concerned with the design principles, diagnosis and repair of the front and rear suspension systems including front-end alignment, 4-wheel alignment, manual and power steering assemblies and related components to include gears and linkages, as well as tire and wheel balance.

A U T:169  SUSPENSION AND STEERING II 3
Continuation of AUT:168 including the design, principles of operation, diagnosis and repair of the following components: conventional brake systems, anti-lock brake systems, electronic steering and ride control systems. Attention is given to live car diagnosis and repair procedures related to frame, suspension, steering, and brake components. Prerequisite: AUT:168.

A U T:170  INTRODUCTION TO DEALERSHIP SERVICE 2
This course will introduce the students to electronic service information and software used in the service department as well as warranty procedures and service labor time standards. Emphasis will also be placed on safety procedures and MSDS sheets. Corequisites: AUT:166, AUT:163, AUT:188. Pre-requisite: Only open to students currently enrolled in the Ford ASSET Program.

A U T:255  AUTOMOTIVE POWERTRAINS 3

A U T:256  AIR CONDITIONING AND AUXILIARY SYSTEMS 3
This course emphasizes theory, operation and design of power accessories, restraint systems and air conditioning, to include proper techniques of dispensing, recovery and recycling of R-12 and R134a refrigerants. NOTE: Students will be required to be certified in the recovering and recycling of R12 refrigerants in accordance with EPA standards. Additional costs will be required. Corequisite: AUT:273. Pre-requisites: AUT:167, AUT:169, AUT:170. Pre-requisite: AUT:259, AUT:169.

A U T:258  MANUAL DRIVETRAINS 3
Theory of operation and service procedures of drive lines, constant velocity joints, manual transmissions and transaxles, differentials and clutches. Prerequisites: AUT:167, AUT:169; concurrent with AUT:259.

A U T:259  EMISSIONS AND DRIVEABILITY DIAGNOSIS 3
This course emphasizes proper diagnostic procedures and use of proper test equipment such as oscilloscopes, exhaust analyzers, meters, and Powertrain Control test equipment. Prerequisites: AUT:150 and AUT:167; concurrent with AUT:258.

A U T:271  DIAGNOSTIC EQUIPMENT AND EMISSIONS 3
Students will learn proper diagnosis and trouble shooting procedures and related test equipment including oscilloscopes, infra-red exhaust analyzers, meters, gauges and diagnostic lane exposure. Prerequisites: AUT:150, AUT:167 and AUT:169.

A U T:272  ACCESSORIES, CONTROLS AND AIR CONDITIONING 3
This course emphasizes theory, operation and design of power windows, power seats, speed controls, vacuum systems, other accessories, and air conditioning. Prerequisites: AUT:271, AUT:281 and AUT:281. 2 lecture hours, 2 lab hours.

A U T:273  AUTOMATIC TRANSMISSIONS AND TRANSAXLES 3
This course emphasizes the operations, theory and repair procedures of automatic transmissions and transaxles. Prerequisites: AUT:150, AUT:167 and AUT:169.

A U T:281  AUTOMOTIVE FIELD WORK I 5
This is an advanced course with practical application on customer's vehicles, involving student work on the diagnosis, testing, and repair of vehicles. Emphasis on lab work will include five of the ASE service specialty areas. Prerequisites: AUT:150, AUT:156, and AUT:169; concurrent with AUT:273, AUT:271, AUT:291.

A U T:282  AUTOMOTIVE FIELD WORK II 5
Concurrent of AUT:281. Emphasis of lab work will include all eight ASE service specialty areas. Prerequisites: AUT:273, AUT:271, AUT:281, and concurrent with AUT:292.

A U T:291  AUTOMOTIVE SERVICE MANAGEMENT 2
This is a Service Advisor training course complete with necessary management practices enabling a student to understand the set-up of the automotive service department. The studies include customer relations, repair order writing, and economics of shop operations.

AVIATION TECHNOLOGY

A V I:155  FLIGHT THEORY I: GROUND SCHOOL FOR PRIVATE PILOT 3
This course has been designed to provide a general background and understanding of flight theory and to prepare the participant to take the private pilot written examination administered by the Federal Aviation Administration. Prerequisite: Reading Proficiency.

A V I:156  INTRODUCTION TO AVIATION AND AEROSPACE 3
A study of the development of aviation and space flight, including simple explanations of flight fundamentals and a look ahead to careers in aviation and aerospace. Prerequisite: Reading Proficiency.

A V I:157  FLIGHT DEPARTMENT SYSTEMS 3
An introduction to the major aspects of the management of aviation operations. Included are management functions, dispatching, organization, manpower management and administration, physical operations, financial control, impact of regulations, marketing profit orientation, leases, community relations, and decision making. Prerequisite: Reading Proficiency.
AVI:158  AIR TRAFFIC CONTROL I FOR PILOTS AND STUDENT CONTROLLERS  3
This course is designed to prepare the student for the technical knowledge portion of the Air Traffic Control exam. Topics covered will be getting started as a controller, inside the written exam, academy training, the history of air traffic control, clearances and separation, operational environs, tools of the trade, principles of flight, navigational aids and aircraft recognition. Pilots will find the material covered a great insight to the National Airspace System. Prerequisite: Reading Proficiency.

AVI:170  AVIATION WEATHER  3
This course is designed as an in-depth study of aviation weather in various simulated weather conditions. The causes, patterns and nomenclature of weather phenomena are made useful not only for aviation but also for other weather-dependent occupations. Prerequisite: Reading Proficiency.

AVI:201  FLIGHT THEORY IV: FLIGHT INSTRUCTOR GROUND SCHOOL  6
This course will prepare the flight instructor candidates to teach private, commercial, and instrument pilots. Students will acquire the necessary aeronautical knowledge, instructional background, and meet the prerequisites outlined in FAR Part 61 for the following FAA flight instructor written examination: 1.) Fundamentals of Instructing (F.O.I.); 2.) Flight/Ground Instructor (CFI-BGI); 3.) Instrument Flight Instructor (CFI-IGI). Prerequisites: AVI:155, AVI:256, AVI:257, or equivalents and Reading Proficiency.

AVI:256  FLIGHT THEORY II: GROUND SCHOOL FOR THE COMMERCIAL PILOT  3
Topics will include a study of chart information and radio equipment, air navigation, performance and operation of aircraft, the navigational computer and weather. Prerequisite: AVI:155 and Reading Proficiency.

AVI:257  FLIGHT THEORY III: GROUND SCHOOL FOR THE INSTRUMENT PILOT  3
This course will present the fundamentals of instrument flying including a study of aircraft instruments, radio communication, and navigation equipment, instrument enroute and approach charts, and weather systems. Prerequisites: AVI:155 and Reading Proficiency.

AVI:261  FLIGHT SIMULATION I  3
A flight simulator used under the instructor's guidance will provide the student with instruction in the use of instruments under simulated conditions. The student will experience various simulated approach and instrument problems in the trainer under the direction of the instructor. Prerequisite: Reading Proficiency.

BIOLOGY

BIO:002  ELEMENTARY BIOLOGY  2
A course designed to develop and enhance the student's ability to interpret written scientific material. Particular emphasis will be placed on comprehension of biological writings, application of study techniques in scientific courses, and basic biological concepts.

BIO:003  BRIDGES TO BIOLOGY  1
Bridges to Biology is a non-transferable, preliminary course which prepares students for Introductory Biology. This course gives students experience in applying information management and study skills necessary for success in laboratory coursework in the natural sciences.

BIO:102  CLINICAL PHYSIOLOGY  3
An orientation to the human body, cell structure and function, histology of body cells, and the relationship of body systems to the overall health of the individual. Includes an introduction to the anatomy and physiology of selected organ systems. Prerequisite: BIO:111 and Reading Proficiency.

BIO:103  PROBLEMS IN ANATOMY  3
A course dealing with the anatomy of the human body; study of the structure of cells, tissues, organs, and systems with emphasis on those subjects important to embalming. Prerequisites: BIO:111 and Reading Proficiency.

BIO:104  BASIC LABORATORY METHODS  3
This course introduces basic laboratory skills in preparation for Biotechnology I. Topics and techniques include safety, sterile technique, laboratory math, quality systems, documentation, collection of data, metrology, filtration, centrifugation, bioseparations, computer data handling, telecommunications and the internet, solution and media prep, and other appropriate laboratory methods. Prerequisites: Prior or concurrent enrollment in CHM:101 Fundamentals of Chemistry, OR high school chemistry within the past 3 years with a grade of “A” or “B”, and Reading Proficiency.

BIO:105  TOPICS IN EVOLUTION  3
This is an introductory course emphasizing both evolutionary mechanisms and evolutionary history. Areas of interest will include evolution as a process, the development of biological diversity, reconstructing past evolutionary events, and the evolution of major groups, including humans. Prerequisite: Reading Proficiency.

BIO:106  HUMAN HEREDITY  4
This course will introduce students to basic concepts in human heredity. Areas of emphasis will include DNA structure and function, modes of inheritance, population genetics, and the genetic engineering, gene therapy, and reproductive technologies will also be covered. Prerequisite: Reading Proficiency.

BIO:110  GENERAL ZOOLOGY  4
A survey of the animal kingdom with emphasis on the anatomy, physiology, ecology and evolution of the major invertebrate and vertebrate groups. Prerequisite: Reading Proficiency.

BIO:111  INTRODUCTORY BIOLOGY I  4
A consideration of the principles of biology, with emphasis on the molecular approach to the structure and function of living organisms. For liberal arts students and majors in physical education, therapy, nursing, and other allied health areas. (Credit is not allowed for both BIO:111 and BIO:140). Prerequisite: Reading Proficiency.

BIO:113  MODERN ASPECTS OF BIOLOGY (LECTURE)  3
A consideration of the principles of biology as they relate to socially relevant issues in nutrition, reproduction, sexuality, heredity, and disease. Prerequisite: Reading Proficiency.

BIO:117  CONSERVATION AND ECOLOGY (LECTURE)  3
This course is designed to focus attention on the forces at work in nature. The interrelationships of living things to their environment and to each other are discussed and in particular man's impact on these relationships. Man's use and abuse of renewable and non-renewable natural resources is also considered. Prerequisite: Reading Proficiency.

BIO:119  FIELD BOTANY  3
A natural history of plants using a wide variety of Missouri habitats. Topics will include lower plants, flowering plants (including trees and shrubs), edible and poisonous plants and man's impact on Missouri forests and other communities. Techniques for collection, preservation and identification will be covered. Prerequisite: Reading Proficiency.

BIO:120  FIELD ZOOLOGY  3
A natural history of animals using a wide variety of Missouri habitats. Topics will include insects and other invertebrates, fish, amphibians, reptiles, birds, mammals, conservation and the history of wildlife populations in Missouri. Techniques for collection, preservation or live maintenance and identification will be covered. Not intended primarily for Biology majors. Prerequisite: Reading Proficiency.
BIO:122 HUMAN SEXUALITY 3
Human sexuality includes not only the biological component of male and female sexuality but also attitudes, values and feelings about one's own gender and sex role. Consequently, in dealing with sex as a natural biological function, the expression of which is a dimension of psychosocial behavior, the sexual development and/or differentiation of men and women from conception to maturity will be stressed. (Same course as PSY:125 and SOC:125). Pre requisite: Reading Proficiency.

BIO:123 ANIMAL BEHAVIOR 3
Animal behavior is an introductory course in invertebrate and vertebrate animal behavior. Emphasis will be placed on biological clocks, migrational patterns, reproductive strategies and hormones that drive behavior, social behavior, and the role of genetics and evolution in determining behavior. Pre requisite: Reading Proficiency.

BIO:124 GENERAL BOTANY I 4
Students will be introduced to the biological aspects of plant life, including cell structure and function, anatomy, morphology, physiology, taxonomy. (Same course as HRT:101). Pre requisite: Reading Proficiency.

BIO:140 PRINCIPLES OF BIOLOGY I 4
Quantitatively oriented for pre-medicine, pre-dentistry, pharmacy, biology and other science majors. A consideration of the principles of biology, with emphasis on the molecular approach to the structure and function of living organisms. (Credit is not allowed for both BIO:111 and BIO:140). Prerequisites: CHM:105 and Reading Proficiency.

BIO:141 PRINCIPLES OF BIOLOGY II 4
A continuation of BIO:140 with emphasis on selected topics in biology covering population genetics, evolution, survey of living plants and animals, ecology and conservation of natural resources. (Credit is not allowed for both BIO:112 and BIO:141). Prerequisites: BIO:140 and Reading Proficiency.

BIO:143 ANATOMY OF HEAD AND NECK 2
This course covers the gross morphology of the head and neck. Lecture sessions highlight the cranial nerves (with emphasis on the trigeminal and facial), the muscles of mastication and facial expression, and the blood and lymphatic vessels of the head and neck. Laboratory sessions include the study of the bones of the skull and study of drawings of the other systems of the head and neck. Prerequisites: BIO:207 and current enrollment in Dental Hygiene and Reading Proficiency.

BIO:144 MARINE BIOLOGY 3
This course introduces students to marine organisms and ecosystems. The interplay of organisms and their environment and other aspects of marine ecology are stressed. Pre requisite: Reading Proficiency.

BIO:145 FIELD EXPERIENCE IN MARINE BIOLOGY 1 - 2
This course consists of field experiences in marine biology either in Florida or a Caribbean destination. Students learn field techniques for collecting and studying a variety of marine organisms. Emphasis is placed on ecology and identification of marine organisms. The course is only offered in conjunction with or following BIO:144 Marine Biology (the pre requisite course). This course may be taken for 1 hour credit (1 week field experience) or 2 credit hours (2 week field experience). Pre requisites: BIO:144 with grade of "C" or better and Reading Proficiency.

BIO:146 DESERT ECOLOGY 3
This course is designed to acquaint the student with the special geologic and climatic conditions necessary for the creation of a desert. It will familiarize students with the unique adaptations of plants and animals to the desert environments in various parts of the world. Emphasis will be placed on characterizing and comparing the four North American Desert ecosystems. Pre requisite: Reading Proficiency.

BIO:147 FIELD EXPERIENCE IN DESERT BIOLOGY 1 - 2
This course will be a field experience to the desert Southwest. The emphasis will be identification of landforms, plants and animals or the desert habitat. May be 1 or 2 credit depending on length of field trip. Also 1-2 week field trip. Pre requisite: Reading Proficiency.

BIO:148 OZARK ECOLOGY 3
This course introduces students to one of the most biological diverse ecosystems in the Midwest. It will focus on the interaction of plants and animals with unique Ozark natural communities such as oak-hickory forests, glades, bluffs, caves, springs, and streams. Management and land use practices affecting this ecosystem will be reviewed. An optional 1-2 week field experience course (BIO:149) is available to students who successfully complete this lecture course. Pre requisite: Reading Proficiency.

BIO:149 FIELD EXPERIENCE IN OZARK ECOLOGY 1 - 2
This course focuses on first-hand field experience in the Ozark mountains and valleys. Emphasis will be placed upon field identification of plants and animals associated with the diverse Ozark natural communities and these organisms' adaptations to these ecosystems. This field experience may be taken for 1 or 2 credit hours depending upon the length of the field trip (1 or 2 weeks). Prerequisites: BIO:148 with grade of "C" or better or approval of instructor and Reading Proficiency.

BIO:151 BIOLOGY OF HUMAN HEALTH AND DISEASE 3
This course examines human health and disease from a biological perspective. We will explore the evolution of microbes and human disease. This course will also look at the influences that regular exercise, diet, and genetic factors have on everyday good health. The mechanisms, manifestations, and prevention of common diseases, such as heart disease and cancer, will also be stressed. Pre requisite: Reading Proficiency.

BIO:203 GENERAL MICROBIOLOGY I 4
Introduction to microbes with emphasis on morphology, culture techniques and biochemical activities of bacteria, viruses and fungi. A consideration of human disease producing organisms with regard to their infection and resistance. Prerequisites: (1) BIO:111 with grade of "C" or better; or (2) one year of high school biology and chemistry (with labs) within previous five years of registration date; or (3) permission of the Department Chairperson of Biology; Reading Proficiency.

BIO:207 ANATOMY AND PHYSIOLOGY I 4
A study of the organization of cells into tissues, organs, and organ systems, with special in-depth study of the integumentary, skeletal, muscular, nervous and endocrine system, and the sensory receptors. Prerequisite: (1) BIO:111 with grade of "C" or better; or (2) one year of high school biology and chemistry (with labs) within previous five years of registration date; or (3) permission of the Department Chairperson of Biology; Reading Proficiency.

BIO:208 ANATOMY AND PHYSIOLOGY II 4
A continuation of BIO:207 with consideration given to the integrative functions of the cardiovascular, digestive, respiratory urogenital and reproductive and endocrine systems. Prerequisites: BIO:207 and Reading Proficiency.

BIO:209 KINESIOLOGY 3
Kinesiology is the study of human movement. It involves applying the anatomy of the musculo-skeletal system to functional movement as a basis to understanding of exercise. Pre requisites: BIO:207 and Reading Proficiency.

BIO:215 HUMAN BODY SYSTEMS 5
This course is a study of the organization and integration of the body's systems. The course progresses from the organization of cells into tissues, organs, and organ systems, to an in-depth study of the physiological, diseases, and other abnormal conditions of the body. Prerequisites: BIO:111 with a C or better, or approval of department chair and Reading Proficiency. 3 lecture, 2 lab, 1 recitation hours per week.
BIO:217 INTRODUCTION TO BIOTECHNOLOGY 5
Introduces the fundamental DNA and protein manipulation techniques used in biotechnology/bioengineering research laboratories in academia and industry. Presents theory of DNA and protein structure, function, and manipulation. DNA techniques include plasmid construction, transformation, selection, isolation, agarose gel electrophoresis, restriction analysis, Southern analysis, plasmid mapping, and PCR. Protein techniques presented include enzyme activity assay, protein separation and identification (using polyacrylamide gel electrophoresis), and protein isolation. Prerequisites: BIO:140, BIO:203, consent of the instructor and Reading Proficiency.

BIO:218 MICROBIOLOGY FOR BIOTECHNOLOGY 4
Two 1 hour lectures and two 2 hour labs per week. A general, introductory microbiology course emphasizing the scientific process and geared toward students planning to further their studies in the biotechnical sciences. This course will provide a detailed exposure to the structure metabolism, and growth characteristics of microbes, the structure and life cycle of viruses, the general makeup and function of the immune system, the genetics of microorganisms, their role in the disease state and impact upon bioethical decision making, and their ecological influence and industrial application. Prerequisites: BIO:140 or BIO:111 with a "C" or better or consent of the instructor and Reading Proficiency.

BIO:219 BIOTECHNOLOGY I 5
This course introduces basic biotechnology skills in preparation for Biotechnology II. Topics and techniques may include safety, Good Manufacturing Practice, agarose gel electrophoresis, plasmid mapping, plasmid DNA mini prep, Southern and Western blotting, ELISA, PAGE, PCR, RT-PCR, DNA sequencing, chromatography, plant cell culture, isolation of chloroplasts and mitochondria from plant cells, or other appropriate molecular techniques used in a biotechnology laboratory. Prerequisites: BIO:104 with a grade of "C" or better, and BIO:111 or BIO:140, OR consent of the program coordinator. Reading Proficiency.

BIO:220 BIOTECHNOLOGY II 5
Two lectures and two, 3 hours labs per week. A project-oriented course applying the fundamental DNA and protein manipulation techniques used in biotechnology/bioengineering research laboratories in academia and industry. Prerequisites: BIO:219 or consent of the instructor and Reading Proficiency.

BIO:221 BIOTECHNOLOGY INTERNSHIP 3
This internship will provide supervised work experience in a biotechnology laboratory. Interns must work a minimum of 150 hours during the term to reserve credit. Prerequisites: Prior or concurrent enrollment in BIO:220 and Reading Proficiency.

BIO:222 SPECIALIZED TOPICS IN BIOTECHNOLOGY 5
This laboratory course will consist of current techniques employed in biotechnology. Topics can include, but are not limited to, specialized techniques from biomedical, environmental, agricultural, pharmaceutical, microbiological, biocomputing, and/or biotechnical aspects of biotechnology. Guest faculty from biotechnology industry and research will be employed as co-teachers. Prerequisites: Prior or concurrent enrollment in BIO:219 or consent of the instructor and Reading Proficiency.

BIO:223 RESEARCH TECHNIQUES IN BIOLOGY 1-3
Introduction to a number of biological research techniques including HPLC, in-vitro perfusion, tissue slicing and extraction of selected parts, animal handling and surgeries. Prerequisites: CHM:101, MTH:140, and BIO:111 or BIO:140 and Reading Proficiency.

BIO:224 INTRODUCTION TO BIOINFORMATICS 2
This course provides the Biotechnology undergraduate major with an understanding and preliminary working knowledge of the concepts, methods and tools used in Bioinformatics. Prerequisites: BIO:219 or consent of the instructor, and Reading Proficiency.
BUS:101 SMALL BUSINESS MANAGEMENT 3
This course offers an introduction to the effective administration of building and zoning regulations. Particular attention will be given to the major methods and procedures for the enforcement of building codes and ordinances. Procedures for the building department operations will also be discussed. Prerequisites: BIC:102 and BUS:103 and Reading Proficiency.

BUS:102 ADMINISTRATION OF BUILDING REGULATIONS 3
This course offers an introduction to the effective administration of building and zoning regulations. Particular attention will be given to the major methods and procedures for the enforcement of building codes and ordinances. Procedures for the building department operations will also be discussed. Prerequisites: BIC:101 and BUS:103 and Reading Proficiency.

BUS:103 BUSINESS MATHEMATICS 3
This course includes a review of basic arithmetic, including fractions, decimals, ratios, non-decimal numbering systems, and graphical representation of numbers. Proceeds with coverage of fundamental problems involved in interest costs, mark-ups, commissions and payroll calculations, and related topics. Also provides comprehensive coverage of taxes, accounting, consumer credit, insurance and security transactions. Emphasis will also be placed on analyzing simple financial statements, volume and profit relationship, trade and cash discounts, and banking records. Prerequisite: Reading Proficiency.

BUS:104 INTRODUCTION TO BUSINESS ADMINISTRATION 3
A survey course, designed to give the student a general knowledge of the modern business world and the environment within which it exists and an awareness of the principles of the major functions in managing a business, such as finance, personnel, production, and marketing. Prerequisite: Reading Proficiency.

BUS:105 SOILS, GRADING AND WASTE WATER CONTROL 3
This course offers the student the technical information necessary for the inspection of construction sites. It includes site investigations, soil analysis, soil mechanics, geology, grading, drainage, and retaining wall design and inspection. Prerequisite: MTH:124 and Reading Proficiency.

BUS:106 STATISTICAL ANALYSIS I 3
This course introduces the student to the basic principles and methods of statistical measurement and statistical inference. Descriptive statistical concepts include data organization and presentation, measures of location and dispersion, probability theory and distributions. Applications of statistical inference include random sampling techniques and sampling distributions, interval estimation, hypothesis testing for large and small samples, ANOVA, correlation, regression analysis, and nonparametric testing. Prerequisites: MTH:160 or MTH:160A or MTH:160B or MTH:160C, and Reading Proficiency.

BUS:107 STATISTICAL ANALYSIS II 3
This course introduces the student to statistical concepts and techniques used by management in the decision-making process. Descriptive statistics includes the display and summary of data, discrete and continuous probability distributions and random variables. Inferential statistics includes parametric and nonparametric tests of significance, correlation and regression analysis, confidence intervals, and analysis of the variance. Forecasting tools include time series analysis and the derivation and use of index numbers. Prerequisites: MTH:177 and Reading Proficiency.

BUS:108 SMALL BUSINESS MANAGEMENT II 3
A comprehensive survey course which deals with the theoretical and practical aspects of starting and operating a small business. Each major function of business (accounting, production, marketing) is discussed in detail and particular reference is made to small business. Students taking this course are normally not encouraged to enroll subsequently in BUS:104 due to similarity of course content. Prerequisite: Reading Proficiency.

BUS:109 BUSINESS ADMINISTRATION II 3
This course provides the student with an understanding of building plans with emphasis on structural elements of building design. The student will be instructed in the review and calculations of loads and sizing of structural elements of a building, including footings, foundations, beams and columns, walls, roofs, and floors. Prerequisites: BIC:202 and BIC:203 and Reading Proficiency.

BUS:110 INTRODUCTION TO BANKING 3
This course provides a broad perspective of the banking industry. As the foundation for further offerings in the Banking and Finance program, Principles of Banking touches on nearly every aspect of bank functions. Included is a comprehensive introduction to banking in today's economy. Discussions on specific topics are presented in an easily accessible form. The language and documents of banking, check processing, teller functions, deposit function, trust services, bank bookkeeping, and bank loans and investments are some primary topics. The course ends with a discussion of the bank's role in the community. Prerequisite: Reading Proficiency.

BUS:111 ENTREPRENEURSHIP 3
This comprehensive course deals with the theoretical and practical aspects of the student entering business for him/herself. Covers opportunities, evaluations, operations, and expansion of entrepreneurial situations. Prerequisite: Reading Proficiency.

BUS:112 CUSTOMER SERVICE 3
A survey course designed to give the student a general knowledge of the goals of customer service, the major categories of customer service, such as decision-making service, problem resolution service, and time-of-purchase service, the skills required to achieve good customer service, and the rationale behind improving customer service. Prerequisite: Reading Proficiency.

BUS:113 PRINCIPLES OF BANKING 2
This course provides an introduction to financial tools and topics relevant to small business owners and managers. This course is a step by step approach to managing a small firm's finances. The student will experience an applications-based approach to learning about financial forecasting, cash flow management, accounting statements, ratio analysis, inventory management, credit and collections, asset management, and other related topics. Students will prepare case analyses using word-processing and spreadsheet software. An important course project will be preparing and presenting a financial plan. Prerequisite: ACC:110 or ACC:120, or Departmental approval and Reading Proficiency.

BUS:114 BUSINESS INTERNSHIP 3
A supervised work program designed to provide students with new skills/knowledge in the functional areas of marketing and/or management. The internship will involve cooperative planning and reporting by the student, a faculty member, the department chair, and the employer. Internship credit will not be awarded for work experience that is part of a student's regular employment. Prerequisite: Departmental approval and Reading Proficiency.

BUS:115 BUSINESS INTERNSHIP 3
A supervised work program designed to provide students with new skills/knowledge in the functional areas of marketing and/or management. The internship will involve cooperative planning and reporting by the student, a faculty member, the department chair, and the employer. Internship credit will not be awarded for work experience that is part of a student's regular employment. Prerequisite: Departmental approval and Reading Proficiency.
BUSINESS LAW

BLW:101 BUSINESS LAW I
A survey course which considers an introduction to the judicial system, as well as principles of law in the following areas: legal ethics, constitutional law contracts, torts, products, liability, intellectual property and business crime. Prerequisite: Reading Proficiency.

BLW:102 BUSINESS LAW II
A survey course which considers principles of law in the following areas: Agency, partnership, corporations, other business organizations, negotiable instruments, real property, personal property, decedent's estates and bankruptcy. Prerequisite: Reading Proficiency.

BLW:103 PERSONAL LAW
An overview of common legal issues and questions with which everyone living in our society has to deal. Students will learn about the legal implications of transactions such as getting a job, buying or leasing a car, buying a house, renting an apartment, obtaining a loan, making contracts, buying insurance, getting married and divorced, having children, and filing lawsuits as well as being sued. Prerequisite: Reading Proficiency.

BLW:201 LEGAL ENVIRONMENT OF BUSINESS
This course covers an introduction to law and the judicial system, business organizations, contracts, torts, property, agency or administrative law, antitrust, labor-management, international and other topics such as law related to energy, health, safety and the environment. Prerequisites: ECO:152 and ACC:110 and Reading Proficiency.

BLW:216 LAW AND BANKING: APPLICATIONS
Laws relating to secured loans, letters of credit and the bank collection process, including check losses and the legal issues related to processing checks. Material on secured transactions summarizes laws related to collateral, perfection and default. Case studies illustrate legal points related to banking practices. Prerequisite: Reading Proficiency.

CENTRAL SERVICE TECHNOLOGY

CST:100 CENTRAL SERVICE TECHNOLOGY I
Central Service, once considered a very unimportant area, now cleans, inspects, prepares, sterilizes, issues and controls most of the items used for direct patient care in today's hospitals. Part I covers a study of asepsis, microbiology and specific bacteria and the importance of control of infections and prevention of contamination. Fundamentals of cleaning and packaging of supplies and selection of materials are discussed. Also covered is an examination of communication skills and the development of working relationships. Prerequisite: Reading Proficiency.

CST:101 CENTRAL SERVICE TECHNOLOGY II
Part II will cover the study of anatomy and its association with orthopedic traction and monitoring of the heart and a study of control, storage and distribution systems. The basic function and maintenance of specific technical equipment used in direct patient care are covered, and safety ethics and job relationships for the technician are stressed. Prerequisite: Reading Proficiency.

CHEMISTRY

CHM:002 PREPARATION FOR CHEMISTRY
This course presents some basic science and mathematical concepts and skills which students need to prepare them to take a college chemistry course. Prerequisite: Previous or concurrent enrollment in MTH:007 or MTH:030, or one year of high school algebra.

CHM:101 FUNDAMENTALS OF CHEMISTRY I
Provides fundamental concepts and symbolism of chemistry with applications to everyday life for students not planning to major in science. Laboratory work presents opportunity to use laboratory equipment and further illustrations of lecture material. Prerequisite: MTH:007 or MTH:030 with grades of "C" or better or MTH:140 on the math placement test and Reading Proficiency.

CHM:102 FUNDAMENTALS OF CHEMISTRY II
Continuation of CHM:101. Topics covered are of particular interest to students in respiratory therapy, nursing, and health-related areas in general. Prerequisite: CHM:101 or CHM:105 with a grade of "C" or better and Reading Proficiency.

CHM:105 GENERAL CHEMISTRY I
Designed for science and science-related majors. Topics include formulas and equations, stoichiometry, atomic and molecular structure, properties of gases, liquids, and solids, thermochemistry and solutions. Prerequisites: MTH:140 (or at least one and a half years of high school algebra) and either CHM:101 or one year of high school chemistry physics and Reading Proficiency.

CHM:106 GENERAL CHEMISTRY II
Topics include kinetics, thermodynamics, electrochemistry equilibria, some descriptive chemistry, and laboratory work in qualitative and quantitative analysis. Prerequisite: CHM:105 and (MTH:160 or MTH:160A or MTH:160B or MTH:160C) with grades of "C" or better and Reading Proficiency.

CHM:109 CHEMISTRY FOR ENVIRONMENTAL CAREERS I
Basic principles, terminology, theories, calculations and laboratory operations in chemistry for environmental careers. Prerequisite: Reading Proficiency.

CHM:114 INDUSTRIAL CHEMISTRY
This is a non-laboratory lecture and demonstration course covering elementary chemistry with emphasis on potentially dangerous chemicals in fires and in other industrial situations. The course is not intended for chemistry or engineering majors. Prerequisite: Reading Proficiency.

CHM:116 CHEMISTRY FOR THE BIOSCIENCES I
This course is intended to give students enrolling in the Life Science programs the necessary background in chemical theory, basic laboratory procedures and techniques, as well as chemical instrumentation. Prerequisite: CHM:101 and Reading Proficiency.

CHM:117 CHEMISTRY FOR THE BIOSCIENCES II
This course is a continuation of chemistry for bioscience I which is intended to give students enrolling in the Life Science programs the necessary background in chemical theory, basic laboratory procedures and techniques, as well as chemical instrumentation. Prerequisite: CHM:116 and Reading Proficiency.

CHM:121 CHEMICAL TECHNOLOGY I
The specific purpose of this course is to provide part of two years of training for a career as a chemical technician. An inorganic chemistry review will be provided with the following topics covered: statistical analysis, physical properties, and gravimetric analysis. Corequisite: GE:101. Prerequisites: CHM:101 and MTH:140 and Reading Proficiency.

CHM:122 CHEMICAL TECHNOLOGY II
The specific purpose of this course is to provide part of two years of training for a career as a chemical technician. Topics covered in lecture and lab are: titrimetric, volumetric, and spectrophotometric analysis (UV, visible, atomic absorption). Prerequisite: CHM:111 and Reading Proficiency.

CHM:201 QUANTITATIVE ANALYSIS I
An introduction to gravimetric, volumetric, and photometric methods of analysis. Students gain experience in the handling of analytical precipitates, titrations, using acid-base and oxidation-reduction reactions, and some laboratory instruments. Prerequisite: CHM:106 with a grade of "C" or better and Reading Proficiency.
CHM:202 QUANTITATIVE ANALYSIS II  
An advanced course in modern analytical methods, both chemical and physical, with emphasis on the effective use of instruments. Prerequisite: CHM:201 with a grade of "C" or better and Reading Proficiency.

CHM:204 ORGANIC CHEMISTRY I  
Theory and practice of the fundamental reactions of organic compounds. For students in science and engineering, pre-medicine, and related fields. Prerequisite: CHM:106 with a grade of "C" or better and Reading Proficiency.

CHM:205 ORGANIC CHEMISTRY II  
Continued theory and practice of the fundamental reactions of organic compounds. For students in science and engineering, pre-medicine, and related fields. Prerequisite: CHM:204 or CHM:206 with a grade of "C" or better and Reading Proficiency.

CHM:206 ORGANIC CHEMISTRY LECTURE I  
An introductory course in the theory of Organic Chemistry, stressing reaction types and mechanisms. Prerequisite: CHM:106 with a grade of "C" or better and Reading Proficiency.

CHM:207 ORGANIC CHEMISTRY LECTURE II  
Continuation of CHM:206 including relevant new topics such as polymer and biochemicals. Prerequisite: CHM:206 with a grade of "C" or better and Reading Proficiency.

CHM:210 ORGANIC CHEMISTRY LAB I  
An introduction to the laboratory work in Organic Chemistry. Emphasis is on techniques generally employed, including some instrumentation. Prerequisite: CHM:106 with a grade of "C" or better and Reading Proficiency.

CHM:211 ORGANIC CHEMISTRY LAB II  
A continuation of CHM:210. Practice, which will emphasize instrumentation and synthetic work, including multi-step syntheses and analytical work. Prerequisite: CHM:210 and Reading Proficiency.

CHM:212 BIO-ORGANIC AND ANALYTICAL CHEMISTRY  
An introduction to analytical chemistry, organic chemistry and biochemistry. Laboratory work is primarily quantitative analysis. Primarily for students interested in the clinical laboratory technology program. Not intended for students in pre-medicine or planning to major in chemistry. Prerequisite: Reading Proficiency.

CHM:213 CHEMICAL TECHNOLOGY SEMINAR  
Present basic electricity and electronic theory, techniques, and hardware to chemical technology students who have no previous formal training in this area. Manual skills (soldering, wire splicing, minor electrical repairs, troubleshooting) will be emphasized. This course presents a practical exposure to simple electronic schematic interpretations, location of test points and component identification. Some elementary breadboarding using commercially available training kits will be presented. The use of various volt/ohm meters and test equipment will be introduced. Real and simulated electrical/electronic troubleshooting situations will be presented using actual analytical chemistry instrumentation. Prerequisite: concurrent enrollment in CHM:208 or permission from instructor and Reading Proficiency.

CHM:214 ADVANCED CHEMICAL TECHNOLOGY SEMINAR  
Emphasis on specialized laboratory techniques and procedures in advances in analytical chemistry instrumentation. An introduction to chemical literature searches both manually and by computer will be presented using both in-house and external consultants and facilities. This course will explore the opportunities and profession of chemical technicians. Specialized resources, advances, and professionals will be presented in seminar format. Specialized topics (ethics, chemical waste disposal and separations) will be included. Prerequisite: concurrent enrollment in CHM:209 or permission from the instructor and Reading Proficiency.

CHM:215 SURVEY OF ORGANIC CHEMISTRY LAB  
An introduction to laboratory work in organic chemistry. Emphasis is on techniques generally employed in the organic lab, including lab experiments selected from topics normally covered in a two semester lab sequence. Lab work includes synthetic experiments, multi-step syntheses, and instrumental analysis of organic compounds. Prerequisite: CHM:106 with a grade of "C" or better and concurrent or previous enrollment in CHM:206 and Reading Proficiency.

CHM:221 CHEMICAL TECHNOLOGY III  
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Organic chemistry theory is introduced with laboratory work focusing on organic separation and synthesis techniques. Infrared spectrophotometric analysis of a variety of samples complements the laboratory work. Prerequisite: CHM:112 and Reading Proficiency.

CHM:222 CHEMICAL TECHNOLOGY IV  
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Organic chemistry theory and lab practice is introduced complemented with mass spectrophotometric analysis. High pressure liquid chromatographic techniques for both qualitative and quantitative analysis are covered. Prerequisite: CHM:221 and Reading Proficiency.

CHM:231 CHEMICAL TECHNOLOGY V  
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Organic chemistry theory and lab practice is introduced complemented with mass spectrophotometric analysis. High pressure liquid chromatographic techniques for both qualitative and quantitative analysis are covered. Prerequisite: CHM:221 and Reading Proficiency.

CHM:232 CHEMICAL TECHNOLOGY VI  
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Biochemical theory is introduced with laboratory work focusing on biochemical separations and purification techniques. Electrophoretic analysis of a variety of samples complements the laboratory work. Prerequisite: CHM:231 and Reading Proficiency.

CHINESE

CHI:101 ELEMENTARY CHINESE I  
A practical, beginning course in speaking and understanding modern spoken Chinese. It is designed for persons who want to learn some Chinese, who want to travel to China, or who have previous limited experience in Chinese. Attention is given to proper pronunciation, to practicing the words and basic structures used most frequently in daily conversation and to learning the social conventions and Chinese culture necessary for interpersonal communication with native speakers of modern Chinese. Prerequisite: Reading Proficiency.

CHI:102 ELEMENTARY CHINESE II  
Continuation of CHI:101. Concentration will be placed on vocabulary acquisition and the oral use of the language. Prerequisite: CHI:101 and Reading Proficiency.

CIVIL ENGINEERING TECHNOLOGY

CE:103 STRUCTURAL DRAFTING  
Classification of drawings and standard conventions employed. Reading of architectural drawings and how they relate to structural drawings. Structural drawing of steel structures and reinforced concrete structures. Prerequisite: Reading Proficiency.

CE:104 CIVIL DRAFTING  
Relationship of points, lines, and planes in space; techniques of map drafting including site plans; plan and profile drawings as they apply to highways, sewers, and open channels; cross sections and how they are plotted from field notes. Prerequisite: EGR:100 and Reading Proficiency.
CE:108 CONSTRUCTION METHODS 3
This course covers many of the principles, materials, and methods used in light construction. Topics include building codes, construction standards and specifications, wood and wood products, concrete, masonry, glass, plastic, aluminum products, bituminous products, gypsum products, asbestos cement products, construction methods systems, foundation systems, slab- on-ground, floor/ceiling systems, wood framed floors, wall systems, masonry walls, roof/ceiling systems, stucco, and terrazzo. Prerequisite: Reading Proficiency.

CE:115 CONSTRUCTION MATERIALS AND METHODS 3
This course covers many of the principles, materials, and methods used in light construction. Topics include building codes, construction standards and specifications, wood and wood products, concrete, masonry, glass, plastic, aluminum products, bituminous products, gypsum products, construction systems, foundation systems, slab-on-ground, floor/ceiling, stucco, and terrazzo. Prerequisite: Reading Proficiency.

CE:116 CONSTRUCTION BLUEPRINT READING 3
The interpretation of construction working drawings and specifications for residential and commercial building projects. Architectural, structural, and utility drawings will be covered. Prerequisite: Reading Proficiency.

CE:117 STATICS AND STRENGTH OF MATERIALS 3
This course deals with the fundamental principles of structural design. Topics include the analysis of structures to determine internal and external forces and the design of members and connections based on allowable bending, tension, compression and shearing stresses. The graphical analysis of statics problems is included. Students considering careers as architects or engineers should enroll in this course, rather than in structures for technicians. Prerequisite: MTH:124 or equivalent and Reading Proficiency.

CE:130 INTRODUCTION TO CONSTRUCTION 3
An introductory course providing an overview of the total construction process including city and regional planning, construction management, contracting, labor and management relations, the design process, estimating and bidding, scheduling and purchasing, construction, and equipment. Prerequisite: Reading Proficiency.

CE:131 CONSTRUCTION ESTIMATING 3
The total estimating and bidding process. Topics will include: bid forms, contracts, specifications, overhead, unit costs, quantity surveys, subcontract bids, pricing, alternates. Students should be able to read construction drawing prior to enrolling in this course. Prerequisites: CE: 116 and Reading Proficiency.

CE:132 CONSTRUCTION SCHEDULING 3
Construction scheduling methods to include bar graphs and Critical Path Method with emphasis on manual and computerized design, calculations, and interpretation using both arrow and precedence diagramming. Prerequisites: 1 year Algebra and Reading Proficiency.

CE:150 CIVIL OJT I 3
The major activity will consist of employment (not less than 10 hrs/wk) in areas of activity related to the program. Each student will be assigned to a co-op instructor. Weekly meetings will be held to assess the part-time work experiences. Prerequisite: Reading Proficiency.

CE:230 CONSTRUCTION MATERIALS AND TESTING 3
The properties and standard tests used in construction on soils, aggregates, bituminous products, and concrete. Prerequisite: Concurrent with ME: 243 and Reading Proficiency.

CE:232 HIGHWAY SURVEYING AND DESIGN 3
Study of factors affecting the location and alignment of highways. Computations for horizontal and vertical curves including field staking are included. Methods of calculating earthwork quantities. Principles affecting subgrade and pavement design for flexible and rigid pavements. Prerequisites: CE: 104 and CE: 240 and Reading Proficiency.

CE:233 HYDRAULICS 3
The hydrological cycle as it affects the storm runoff process. Calculation of surface runoff quantities. Basic fluid mechanics including pressures, hydrostatic forces, Bernoulli's theorem and fluid flow. Flow in pipes and open channel flow general procedures for design of storm water, sewage, or water supply systems. Prerequisites: MTH:144 and Reading Proficiency.

CE:234 STRUCTURAL ANALYSIS 3
Applications of loads and their transmission through structure; stability and determinacy; shear and moment in beam/column structures; analysis of trusses; influence diagrams; deflection of beams. Prerequisites: Concurrent with ME: 243 and Reading Proficiency.

CE:235 CONSTRUCTION OFFICE PRACTICE 3
The interactive role of organizations in the construction process; the structure of alternative construction delivery systems, such as general contractor, construction manager, and design-build contractor; specification and building codes; cost control reporting systems for construction. Prerequisite: Reading Proficiency.

CE:236 REINFORCED CONCRETE DESIGN 3
Design and investigation of reinforced concrete beams, columns, slabs, and footings using the Strength Method in accordance with the 1977 ACI Building Code. Prerequisites: ME: 243 and Reading Proficiency.

CE:238 ENVIRONMENTAL SYSTEMS 3
The general characteristics of environmental systems that includes water supply, waste water treatment, air pollution, solid waste management, and hazardous waste disposal. Prerequisite: Reading Proficiency.

CE:240 PLANE SURVEYING 3
The theory and practice of plane surveying, including the use and care of transit, level, compass and tape. Emphasis is placed on laboratorype problems in measurements of areas, heights, and angles, calculations of traverses, topographic mapping and field methods. Prerequisites: MTH:124 and MTH:134 or equivalent and Reading Proficiency.

CE:241 STRUCTURAL SYSTEMS I 4
This course applies the principles of statics and strength of materials to the analysis and design of wood, structural steel and reinforced concrete structures. Topics include beams, columns, connections, floors and footings. Prerequisites: CE: 117 and Reading Proficiency.

CE:242 ENVIRONMENTAL TOPICS FOR EDUCATORS 3
This course provides an overview of environmental topics in the area of water resources, water pollution and disposal of solid/hazardous wastes. The course is intended to increase the familiarity of problems so that the educator will feel more confident/comfortable discussing these issues in the classroom. The topics chosen will be relevant to current concerns and include, in the field of air pollution for example, depletion of the ozone layer, the greenhouse effect, radon, smog, and acid rain. Prerequisite: Reading Proficiency.

CE:243 INTRODUCTION TO ENVIRONMENTAL ENGINEERING 3
This course provides an overview of environmental engineering principles as they pertain to water resources, water pollution, air pollution and solid/hazardous wastes. Initially, the focus is on population, energy, ecology, meteorology and human impacts to establish the underlying concepts that are important to the study of environmental engineering. Subsequently, the focus shifts to water resources and supply as well as pollution from water, air, and wastes. Treatment and environmental problems are presented in a quantitative manner. The course is quantitative in nature and relies on a background of chemistry, physics and mathematics. Prerequisite: Reading Proficiency.
CE:244  INTRODUCTION TO GIS  3
An integrated approach to Geographic Information Systems (GIS) mapping with a basic non-technical introduction to Global Positioning Systems (GPS). Information will be provided on GIS mapping techniques, differential GPS (DGPS), use of coordinate systems (both local & global), standard map projections, GPS receiver technology, GIS mapping software, as well as other state-of-the-art techniques and capabilities. The lecture class will provide mostly theoretical information in both of the technologies. The lab will provide practical experience in collecting GPS data as well as experience in integrating the data into a final GIS data base. Prerequisites: CE: 240 or Department Approval and Reading Proficiency.

CE:245  INTRODUCTION TO GLOBAL POSITIONING SYSTEMS (GPS)  2
A classroom introduction to the surveying application of the Global Positioning Systems (GPS); their theory, theory of operation, terminology, positioning techniques, standards; a comparison of the United States GPS and the Russian GLONASS and how they combine into the worldwide Global Navigation Satellite System (GNSS). Prerequisites: CE: 240 or Department Approval and concurrent with CE: 245 and Reading Proficiency.

CE:246  GPS APPLICATION LAB  1
The lab is an application based series of exercises and supplemental information provided in class which will further enhance the formal texts and the concurrent lecture CE: 508. Work may occur outside or inside depending upon the present needs of the course. Students may be required to work in adverse conditions including, but not limited to: darkness, cold, rain, etc.. Prerequisites: CE: 116 or Department Approval and concurrent with CE: 245 and Reading Proficiency.

CE:247  LEGAL ASPECTS OF BOUNDARY SURVEYING  3
Topics covered will include legal principles of surveying, Missouri survey law, legal principles of boundaries, property, monumentation, legal descriptions, deed interpretations, and legal aspects of surveying and professional liability. Prerequisites: CE: 240 or Department Approval and Reading Proficiency.

CE:248  FUNDAMENTALS OF LAND SURVEYING  3
This course includes essential elements necessary in the initiation and follow through of any property survey; evidence of ownership, historical information in the subdivision of public lands, methods of measurements, description of property and legal requirements for recording. Prerequisites: CE: 240 or Department Approval and Reading Proficiency.

CE:250  ROUTE SURVEYING  3
The use of simple curves, spirals, super-elevations and earthwork computations as applied to highway and railroad surveying. Prerequisites: CE: 240 and Reading Proficiency.

CE:251  CIVIL OJT II  3
This course is a continuation of CE: 150. Prerequisites: CE: 150 and Reading Proficiency.

CE:252  CIVIL OJT III  3
This course is a continuation of CE: 251. Prerequisites: CE: 251 and Reading Proficiency.

CE:291  CO-OP WORK EXPERIENCE I - CIVIL ENGINEERING  3
A cooperative education work experience consists of a work assignment with an employer or agency (minimum of 15 hours per week), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisite: Reading Proficiency.

CE:292  CO-OP WORK EXPERIENCE II - CIVIL ENGINEERING  3
Continuation of CE: 291. Prerequisite: Reading Proficiency.

CE:293  CO-OP WORK EXPERIENCE III - CIVIL ENGINEERING  3
Continuation of CE: 292. Prerequisite: Reading Proficiency.

CLINICAL LABORATORY TECHNOLOGY

CLT:100  ORIENTATION TO THE MEDICAL LAB  1
Orientation to the profession of medical technology, its functions, specialties and responsibilities. The philosophy and ethics of the practice of medical technology are considered and interpersonal relationship of technologist to medical staff, laboratory staff, patient and other departments. Medical terminology will be stressed as well. Prerequisites: Admission to program and Reading Proficiency.

CLT:101  MEDICAL MICROBIOLOGY  3
The theory and principles of micro-organisms and human disease. Growth requirement of micro-organisms with consideration of media, biochemical reactions, susceptibility testing will be studied. Application of theory will be practiced in laboratory sessions. Prerequisites: Admission to program and Reading Proficiency.

CLT:102  ROUTINE ANALYSIS  2
The theory and principles including basic physiology of the kidney and study of the body fluids such as urine, gastric contents, bile, pleural fluid. The techniques and theoretical bases of urine testing and normal and abnormal finding. Practical application will be taught. Prerequisite: Reading Proficiency. 1 lecture, 1 lab hour.

CLT:103  HEMATOLOGY  3
The theory and principles of physiology of blood forming organs, blood cell maturation, blood dyscrasia, techniques of staining, counting and differentiating cell morphology. Also, the theory and principles of the mechanism of coagulation with analysis of the various factors. Prerequisites: CLT:100 or CLT:101 and Reading Proficiency. 2 lecture, 1 lab hour per week.

CLT:104  PATHOGENIC BACTERIOLOGY I  4
The study of micro-organisms with emphasis on the bacteria in diseases of man. Theory and principles of isolation, identification, biochemical reactions, growth requirements, susceptibility testing will be considered. Theory and practical application will include lecture, demonstration, laboratory practice, slides, films and examinations. Prerequisites: CLT:101 and Reading Proficiency.

CLT:105  BASIC MEDICAL LABORATORY SKILLS  4
Practice of basic skills common to most clinical laboratories with emphasis on "doing" rather than principles of laboratory testing. Skills such as staining, phlebotomy, pipetting, use of the microscope, practice of diagnostic procedures will be stressed. Prerequisites: CLT:100, CLT:101, CLT:102, CLT:103, CLT:104 and Reading Proficiency.

CLT:106  PHLEBOTOMY ESSENTIALS (BLOOD DRAWING)  5
This course is designed to provide the students with knowledge, skill, and techniques necessary to perform as a phlebotomist in the clinical setting. The student will learn basic anatomy pertinent to blood collection as well as communication skills, specimen processing and related interdisciplinary tasks. Prerequisites: ADS:101 or ADS:105 and Reading Proficiency. 5 lecture, 6 lab hours.

CLT:107  PHLEBOTOMY PRACTICUM  6
This course is designed to provide the student with a practical experience of various blood drawing techniques in the clinical setting. The students will spend an assigned number of weeks practicing skills and techniques learned in CLT:106. Prerequisites: CLT:106 and Reading Proficiency.
CLT:108 BASIC LABORATORY SKILLS FOR HEALTH CARE PERSONNEL 3
A course designed to impart knowledge and skills in basic laboratory techniques concerning specimen collection, basic testing and reporting. Safety and quality control will be included. Prerequisites: Current enrollment in or successful completion of allied health, nursing, or medically related program. Prerequisite: Reading Proficiency. 3 lecture, 3 open laboratory sessions per week.

CLT:109 PRACTICUM 5
This practicum will be attained in one of the clinical affiliated laboratories. The students will rotate through assigned departments of the clinical (medical) laboratories and shadow the clinical technologists learning through observation. Prerequisites: CLT:108 and Reading Proficiency. 18 contact hours per week.

CLT:200 PATHOGENIC BACTERIOLOGY II 4
The role of micro-organisms in diseases of man with emphasis on differential culture methods is presented, also consideration of media, biochemical reactions, sensitivity and growth requirements. Included is bacteria rickettsia, viruses, mycology and parasitology. Theory and practical application will include such methodology as lecture, demonstration, laboratory practice, slides, films and examinations. Prerequisites: CLT:201 or CLT:204 and CLT:105 and Reading Proficiency. 4 lecture, 1 lab hour per week.

CLT:201 CLINICAL CHEMISTRY I 5
Stresses theory and principles of quantitative and qualitative analysis of body fluids such as blood, urine and spinal fluid as well as feces, calculi and other material. Information about physiology will be included to increase understanding of need for testing. Instrumentation and quality control will be taught. Prerequisites: CHM:101, CHM:210, CLT:105 and Reading Proficiency.

CLT:202 CLINICAL PRACTICE I 4
Practical experience is attained in one of the clinical affiliated laboratories. The students rotate through each of the major departments of the clinical (medical) laboratory and are closely supervised by bench technologists and faculty. Rotation and practical experience is gained in microbiology, clinical chemistry, blood bank, hematology, urinary analysis, serology and immunology departments. Prerequisites: CLT:105 and Reading Proficiency.

CLT:204 BLOOD BANK 2
Introduction to the basic immunologic and genetic principles governing blood groups and transfusion reaction. Theory and principles of routine laboratory testing procedures will be presented. Prerequisite: CLT:105 and Reading Proficiency.

CLT:205 PATHOLOGY CORRELATION CONFERENCE 1
The inter-relationships of laboratory tests correlated with the disease will be stressed. Significance of laboratory testing and results will be taught with a dynamic overview to diagnosis, and prognosis. Prerequisites: CLT:202, CLT:204 and CLT:210 and Reading Proficiency.

CLT:206 CLINICAL CHEMISTRY II 4
Continuation of CLT:201. In addition, enzyme, hormone, and automation with some practical application will be taught. Prerequisites: CLT:201 and Reading Proficiency.

CLT:207 CLINICAL PRACTICE II 4
A continuation of CLT:202. Twenty-four hours clinical practice each week in hospital or private laboratories. Prerequisite: CLT:202 and Reading Proficiency.

CLT:209 CLINICAL PRACTICE/P-T 8
Rotation through affiliated clinical laboratories. Specific assignments in the laboratories are designated to further develop the techniques being studied. Forty (40) hours per week of clinical practice in hospital or private laboratories will be assigned. Prerequisite: CLT:105 and Reading Proficiency.

CLT:210 IMMUNOLOGY AND SEROLOGY 2
Study of theory and principles of immunological reaction including antigen antibodies, complement, humoral and cellular response and other body defenses and reaction to infections and non-infectious agents. Serological methodology will also be discussed, demonstrated and practiced. Prerequisite: CLT:101 and Reading Proficiency. 2 hour lecture, 1 hour lab, 3 hours other.

COL:020 COLLEGE ORIENTATION AND STUDY SKILLS 3
This course is designed to facilitate a successful college experience for the 1st year student taking developmental courses. Students will be introduced to the processes and purposes of higher education. Students will develop college-level study skills and will learn about college resources to assist them in their personal and academic adjustment to college life.

COL:100 FRESHMAN ACADEMIC ORIENTATION 1
Through interactive learning experiences, Freshman Academic Orientation introduces students to college level thinking skills, interpersonal skills, and effective study skills necessary for academic success. Students have the opportunity to participate in a faculty/student academic mentoring program. Prerequisite: Reading Proficiency.

COMM:101 ORAL COMMUNICATION I 3
This is the basic, transfer course in speech communication. The course offers opportunity to explore effective one-to-one, small group communication, and large group oral communication process. Prerequisite: Reading Proficiency or concurrent enrollment in RDG: 030 or ENG:070.

COMM:102 ORAL COMMUNICATION II 3
This course focuses on interpersonal communication skills. The techniques used in this class will include video taping, class discussion, one-on-one encounters and group interaction. Interpersonal theory will be examined to give the student a comprehensive approach to communication. Prerequisite: Reading Proficiency.

COMM:103 SMALL GROUP COMMUNICATION 3
A study of the principles and concepts of small group communication. Students are encouraged to develop and improve their skills for business management, education, community activities and interpersonal communication. Prerequisite: Reading Proficiency.

COMM:104 PERSUASION 3
This course examines the principles of persuasion as they apply to relationships, jobs, and mass media. Students are given the opportunity to analyze and create persuasive messages. The course focuses on the skills necessary to become a more effective sender and receiver of persuasive communication. Prerequisite: Reading Proficiency.

COMM:105 INTERVIEW PROCESS 3
This course will provide students with an understanding of the interview process, the principles involved, types of interview questions and their uses, and interview structures. Prerequisite: Reading Proficiency.

COMM:106 INTERVIEW SKILLS 1
The importance of effective interviewing skills and improving individual students’ skills. This course will concentrate on the employment interview. Prerequisite: Reading Proficiency.

COMM:107 PUBLIC SPEAKING 3
This course applies oral communication principles in formal public speaking situations. Attention is devoted to theory and practice in informative and persuasive speaking, presenting technical reports, large group leadership, and speeches for special occasions. Prerequisite: Reading Proficiency.
COM:108 BUSINESS/TECHNICAL PRESENTATION 3
This course is designed to provide students with practical experience and application of communication skills and techniques in business and technical situations. By taking this course, students should be better prepared for the practical demands on their skills to achieve in business and technical areas. Prerequisite: Reading Proficiency.

COM:109 CONFERENCE LEADERSHIP/DECISION MAKING 3
Communication in institutions and organizations depends upon skills in effective conference leadership and the communication aspects of decision making. The student will gain information concerning the communication influences in the conference situation and the decision-making process, and develop individual skills. Prerequisite: Reading Proficiency.

COM:110 ORGANIZATIONAL COMMUNICATION 3
This course examines the communication systems and behaviors within organizations. Students should develop systematic improvement of communication skills, as employer and/or employee. Prerequisite: Reading Proficiency.

COM:111 VOICE AND ARTICULATION 3
Principles and practice of improving voice, articulation, pronunciation, foreign and regional dialects. Primary emphasis on individual speech improvement. Frequent use of audio-video tape for self evaluation. Prerequisite: Reading Proficiency.

COM:112 ARGUMENTATION AND DEBATE 3
A study of the principles of argumentation, analysis, evidence, inference and refutation. These principles are applied to significant issues of current interest. Experience provided in the practice of academic debate. Prerequisite: Reading Proficiency.

COM:114 ORAL INTERPRETATION OF LITERATURE 3
This course focuses upon effective oral communication of literature. Course goals include increasing appreciation and understanding of literature through performance and the development of an expressive and responsive communication style. Video/audio tape used for self-analysis. Prerequisite: Reading Proficiency.

COM:120 GENDER COMMUNICATION 3
This course is aimed at understanding and improving how men and women communicate. Self-disclosure practices, nonverbal symbols and language style will be explored. The images of men and women in society and the media will be discussed. Students will develop strategies to improve communication behaviors. Prerequisite: Reading Proficiency.

COM:200 COMMUNICATION BETWEEN CULTURES 3
This course introduces the topic of Intercultural Communication, including the communication process, perception, verbal/nonverbal symbols, beliefs, values, world view, norms, identity, and social institutions. Barriers such as stereotyping, language, and culture shock are examined as well as case studies, cultural research, relationships, and communication skills. Prerequisite: Reading Proficiency.

COM:201 INTERPERSONAL COMMUNICATION 3
This course will take a theoretical case study examination of interpersonal communication. Relational issues as they pertain to communication will be examined in depth. These issues will include: conflict, stages of relationships, power, assertiveness, message analysis, and self-awareness. Prerequisite: Reading Proficiency.

CRJ:101 AMERICAN CORRECTIONAL SYSTEM 3
A study of the correctional process from law enforcement through the administration of justice, probation, parole, prisons and correctional institutions. A study of the history and philosophy of corrections. Prerequisite: Reading Proficiency.

CRJ:102 REHABILITATION, PAROLE, AND PROBATION 3
Analysis and evaluation of the concept and practices of rehabilitation in contemporary correctional systems; discussion of correctional institutions and the various field services. Development, organization, operation and result of systems of probation and parole. Prerequisite: CRJ:101 and Reading Proficiency.

CRJ:111 RULES OF CRIMINAL EVIDENCE 3
The study of basic rules of evidence applicable to the investigation of criminal activities and other related police duties. Emphasis is placed on the question of admissibility of evidence and the practical application of procedural and substantive guarantees. Prerequisite: Reading Proficiency.

CRJ:120 PRINCIPLES OF SECURITY 3
This study of security operations includes the legal framework, liability issues, and an analysis of the techniques used to provide protection for public and private institutions and businesses. Prerequisite: Reading Proficiency.

CRJ:122 INTRODUCTION TO CRIMINAL JUSTICE 3
The history and philosophy of the system of criminal justice in America, identifying the various sub-systems; role expectations, and their interrelationships; theories of crime, punishment and rehabilitation. Prerequisite: Reading Proficiency.

CRJ:123 JUVENILE JUSTICE 3
The organization, functions and jurisdiction of juvenile agencies; the detention of juveniles and the processing of neglected and abused children. The intent, application, and procedure of the Missouri Juvenile Code; juvenile case disposition, rights of juveniles, crime prevention methods and reporting procedures. Prerequisite: Reading Proficiency.

CRJ:124 CRIMINAL LAW AND PROCEDURES 3
An introduction to the study of criminal, common, and statutory law within the context of enforcement. Prerequisite: Reading Proficiency.

CRJ:206 MANAGEMENT OF HUMAN CONFLICTS 3
Explores the areas of potential conflict that can occur between members of the criminal justice community and various ethnic, racial, and regional subcultures. The root causes of the potential conflicts in both criminal justice organizations and occupational subcultures will be investigated. Issues of prejudice and discriminatory practices, both real and perceived, will be discussed as factors contributing to conflict. Proactive and reactive intervention techniques will be addressed in order to learn how to keep potential conflict from becoming actual conflicts. Prerequisite: Reading Proficiency.

CRJ:207 POLICE SUPERVISION 3
A comprehensive overview of police personnel, recruiting, selection, training, promotion, personnel development, discipline, control, communication, labor relation issues, and current problems and theories facing the first line level police manager. Emphasis is placed on both individual and organizational development. Prerequisite: Reading Proficiency.

CRJ:208 CORRECTIONAL POLICIES AND PROCEDURES 3
The study of policies, procedures and supervision in the field of Corrections. Prerequisite: CRJ:101, CRJ:102, or consent of department and Reading Proficiency.

CRJ:209 CRIMINAL JUSTICE PRACTICUM 3
A field work experience in Criminal Justice organizations. Students are expected to commit themselves to 120 hours of work experience during the semester. Prerequisite: Corrections Option—CRJ:122, CRJ:101, and CRJ:102. Law Enforcement Option—CRJ:122, CRJ:124, and CRJ:111. Concurrent enrollment in Criminal Justice Practicum Seminar (CRJ:211). Reading Proficiency.

CRJ:211 CRIMINAL JUSTICE PRACTICUM SEMINAR 3
DEAF COMMUNICATION STUDIES

DCS:001 CONVERSATIONAL SIGN II 3
This course is designed for anyone interested in taking only one or two courses to converse with a deaf friend, colleague, fellow student, etc. Students will learn fingerspelling, approximately 1000 words organized into conversational themes or topics. This is not a preliminary course to the Deaf Communication Studies program.

DCS:104 AMERICAN SIGN LANGUAGE I 5
For students planning to pursue sign language studies in depth. Intensive exposure to ASL allowing development of beginning level communication skills used with deaf persons. Emphasis on comprehension of target language, ASL. Linguistic, cultural features are presented in context of learning experiences. Pre requisite: Reading Proficiency.

DCS:105 AMERICAN SIGN LANGUAGE II 5
Intensive exposure to ASL allowing continued development of intermediate level communication skills utilized in interaction by deaf persons. Emphasis given to comprehension and production skills. Linguistic and cultural features presented in the context of language learning experiences. Prerequisites: DCS:104 with grades of "C" or better and Reading Proficiency.

DCS:106 AMERICAN SIGN LANGUAGE III 5
Continued exposure to ASL allowing greater development of expressive and receptive ASL communication skills. Linguistic and cultural features presented in the context of language learning experiences. Prerequisites: DCS:105 with a grade of "C" or better and Reading Proficiency.

DCS:107 FINGERSPELLING 3
This course develops expressive and receptive fingerspelling skills based on word and phrase recognition principles. Because a manual alphabet is used by deaf people, it is essential to develop communication skills in ASL and PSE. Pre requisites: DCS:104 and Reading Proficiency.

DCS:108 ORIENTATION TO INTERPRETING 3
An overview of interpreting as an occupation. Topics include interpersonal skills, professional ethics, parameters of responsibility of the paraprofessional, examination of community resources, and legal ramifications. Prerequisites: DCS:106, DCS:109 with a grade of "C" or better and Reading Proficiency.

DCS:109 ETYMOLOGY FOR INTERPRETERS 3
This course is designed to instruct students in the fundamentals of language building, to interpret and translate English idioms in the correct meaning, and to identify the variation of; verb versatility, multiple meanings, multiple signs, and contextual clues. Concentrated attention is given to English and sign vocabulary development. The student will learn discourse and comparative analysis techniques. Prerequisites: DCS:105 and ENG:101 with grades of "C" or better and Reading Proficiency.

DCS:110 DEAF THEATRE STUDIES 3
This course will address the special considerations of sign language performance. Emphasis placed on developing theatrical sign and mime skills. Lectures, field trips included. Open to hearing and deaf. Prerequisites: DCS:104 with a grade of "C" or better or permission of department and Reading Proficiency.

DCS:111 THEORY OF AMERICAN SIGN LANGUAGE 3
A course to examine the structural and grammatical principles of ASL. An introductory study of the linguistic and semiotic problems of equivalency in English and American Sign Language will be studied. By incorporating linguistic information into the text analysis process, quality interpretation of English and ASL will result. Prerequisites: Completion or concurrent enrollment in DCS:104 and Reading Proficiency.

DCS:115 INTRODUCTION TO DEAF COMMUNICATIONS STUDIES 3
This course surveys the aspects of deafness by familiarizing students with the physiology of the ear, causes and types of hearing losses, social and psychological aspects of deafness, national and community organizations (i.e. NAD, RID), and history of deaf education. Prerequisite: Reading Proficiency.

DCS:116 AMERICAN SIGN LANGUAGE SEMANTICS 3
This course is designed to expand student's knowledge, recognition, and understanding of American Sign Language semantic units. Focus will be on interpreting and translating ASL idiomatic expressions into equivalent English meaning and usage; developing a recognition of cultural variations of sentence types, time, pronominalization, subjects and objects, classifiers, locatives, pluralization and temporal and distributional aspects. Emphasis will be on cross-cultural influences on language usage and thought. Prerequisites: DCS:104 and DCS: 115 with grades of "C" or better and Reading Proficiency.

DCS:117 SIGN THEATRE 3
This class will explore and mount a small theatre of the deaf production. Theatrical sign and mime skills will be utilized. All students will be involved in developing the ASL translation of a script, building sets and props and performing. The show will perform for elementary school children on Fridays during class time. Prerequisites: DCS:105 and DCS:110 with grades of "C" or better and Reading Proficiency.

DCS:118 SIGN SEMINAR 3
This course is designed to provide increased interactive opportunities for students to continue development of their knowledge of vocabularies and grammatical features of ASL. Instructional approaches include discussion, expansion and explanation in the target language. In addition, the course focuses on colloquialisms, varying registers and socially restricted vocabulary in numerous contexts. Prerequisites: DCS:105 with a grade of "C" or better and Reading Proficiency.

DCS:206 CONSECUTIVE INTERPRETING 3
Introduces basic skills necessary for an individual to interpret ASL to English or English to ASL. The course is built around a sequencing of drills and incorporates video and deaf signs. The Code of Ethics is reinforced in the classroom. Prerequisite: DCS:106 and DCS:109 with grades of "C" or better, or permissions of Department and Reading Proficiency.

DCS:207 SIMULTANEOUS INTERPRETING 3
Introduces basic skills necessary to simultaneously transliterate Contact/PSE to English or English to Contact/PSE. The course is built around sequencing of drills and exercises and incorporates video and deaf signs. The Code of Ethics will be reinforced in context. Prerequisites: DCS:106 and DCS:109 with grades of "C" or better, or permission of Department and Reading Proficiency.

DCS:208 DCS PRACTICUM 3
Introductory field experience involving observation, interpreting/translating, and interacting totaling 50 hours during the semester. Lecture portion will discuss problems encountered, development of a professional log and portfolio. Prerequisites: DCS:206, DCS:207 and DCS:218 with grades of "C" or better and Reading Proficiency.

DCS:209 INTERPRETING/TRANSLITERATING LAB 1
Designed to reinforce concepts discussed in DCS:206/207 within individualized and small group settings. Concurrent enrollment in DCS:206 or DCS:207. Prerequisite: Reading Proficiency.
DCS:210 SIGN TO VOICE INTERPRETING 3
The purpose of this course is to provide the student an opportunity to build skills in interpreting and transliterating into spoken English from ASL and various contact varieties. Prerequisites: DCS:206 and DCS:207 and COM:111 with grades of "C" or better and Reading Proficiency.

DCS:211 SPECIALIZED INTERPRETING 3
Various interpreting settings are explored, including educational, legal, medical, mental health, religious, platform, rehabilitation, and performing arts. The course also develops understanding of additional types of communication techniques, such as interpreting for those who are deaf-blind, oral or exhibit minimal language skills. Prerequisites: DCS:105 and COM:111 with grades of "C" or better and Reading Proficiency.

DCS:212 DEAF HISTORY AND CULTURE 3
To help students understand historical values and traditions with the culture of deaf people. Traditions include use of humor, success stories, and behaviors of empowerment. Values include the importance of clubs, perspectives on education of deaf children, interpreter services and the preservation of ASL. Prerequisites: DCS:211 with a grade of "C" or better and ANT:102 and Reading Proficiency.

DCS:213 PROFESSIONAL ISSUES AND ETHICS 3
This course will explore the current role of the interpreter as a professional. Topics include, but not limited to, the art of cross-cultural mediation, ethical standards, application of interpreting theories, resume development and business practices. This course will prepare students for the practicum experience. Prerequisites: DCS:216, DCS:217, and DCS:211 with grades of "C" or better and Reading Proficiency.

DCS:214 INTERACTIVE INTERPRETING 3
This skill development course will provide students with the opportunity to practice skills associated with interactive interpreting situations. Students will use both consecutive and simultaneous interpreting methods. Interactive interpreting refers to the process of initiating an interpretation both manual and verbal during a variety of interview and one-on-one situations (mental health, medical, employment, educational and business). Students will begin working with isolated cognitive subtasks (critical listening, analyzing the information, constructing the interpretation and generating the interpretation) of interpretation and work to integrate component skills to perform an interactive interpretation. Prerequisites: DCS:210, DCS:216, DCS:217 with grades of "C" or better and Reading Proficiency.

DCS:215 INTERPRETER SEMINAR 2
This course is designed to provide increased interactive opportunities for students to continue the development of their knowledge of the interpreting process. Instructional approaches include discussion, expansion, and explanation of interpreting and transliterating. In addition, the course focuses on cross cultural mediation and discourse analysis. Prerequisites: DCS:206 and DCS:207 with grades of "C" or better and Reading Proficiency.

DCS:216 EDUCATIONAL INTERPRETING - CLASSROOM APPLICATIONS 3
This course is designed to focus on the principles of interpreting within the framework of an educational system. Procedures and strategies for effective communication in the educational setting are discussed. The role of the educational interpreter to facilitate communication between Deaf individuals and their peers, educational instructors, staff and students is stressed. Also emphasized is the interpreter as a member of the educational team. Prerequisites: DCS:206 and DCS:207 with grades of "C" or better and Reading Proficiency. 3 lecture hours weekly.

DCS:217 TRANSLATION APPLICATIONS OF ASL 3
This is a skill development course based on English written text analysis and American Sign Language equivalent meaning and appropriate interpretation with conceptual accuracy. Students will engage in the analysis, discussion and translation of ASL and/or English texts from one language into the other. Student demonstration of translations will be used to discuss meaning of message and degrees of equivalency. The discourse style of American English and Sign Language usage will be analyzed to distinguish the patterns of low and high context usage, linguistic structure and cultural differences. Prerequisites: DCS:216 with a grade of "C" or better or concurrent enrollment in DCS:216 and Reading Proficiency.

DCS:218 PRE-PRACTICUM 3
This course will prepare students to enter the practicum experience. Topics will include: professional organizations, certification, contextual factors, market analysis, time management, business management, consumer attitudes and minority accommodations. Prerequisites: DCS:206 and DCS:207 with grades of "C" or better and Reading Proficiency.

DENTAL ASSISTING

DA:143 CHAIRSIDE ASSISTING: OPERATIVE DENTISTRY 2
This course provides the basic principles and theory of common restorative dental procedures. Emphasis is placed on instrumentation and materials preparation and use, and the assistant's role in chairside restorative procedures. Prerequisites: DA: 144 and DA: 151, current enrollment in Dental Assisting Program and Reading Proficiency. 2 lecture hours.

DA:144 PRECLINICAL PRACTICE 1
This preclinical course gives the student an opportunity to apply knowledge and practice basic dental assisting skills and clinical support functions in the laboratory setting. Prerequisite: Current enrollment in the Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:149 DENTAL TERMINOLOGY 1
An introduction to the structure and function of teeth and oral cavity components. Additional topics include dental charting and restorative terms. Prerequisite: Current enrollment in Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:150 INFECTION CONTROL IN DENTISTRY 1
This course will cover the process of disease transmission, methods and agents for sterilization and disinfection, universal precautions, and means of protection for the dental team and patient. Prerequisite: Current enrollment in Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:151 FUNDAMENTALS OF CHAIRSIDE ASSISTING 2
This course introduces the student to patient and treatment room preparation, data collection, four-handed dentistry techniques common to all dental procedures, and recognition and management of medical emergencies. Prerequisite: Current enrollment in Dental Assisting Program and Reading Proficiency. 2 lecture hours.

DA:157 DENTAL RADIOLOGY 2
This course will cover radiation production, safety and protection, exposure and processing procedures, and quality assessment of radiographs. Lab emphasis placed on developing proficiency in intraoral exposure techniques. Prerequisites: Current enrollment in Dental Assisting Program and Reading Proficiency. 1 lecture, 2 lab hours.

DA:158 DENTAL OFFICE PROCEDURES 1
An introduction to procedures associated with the business aspects of the dental office that include scheduling appointments, telephone and written correspondence, and records management. Prerequisites: Current enrollment in the Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:161 DENTAL ASSISTING PRACTICUM 2
This course introduces the student to the dental office and provides an opportunity for the application of basic dental assisting skills and clinical support functions. Prerequisites: DA: 144, DA: 164, and current enrollment in the Dental Assisting Program and Reading Proficiency. 6 clinical hours.
DA:162  DENTAL SYSTEMS MANAGEMENT 1
An introduction to the use and application of dental office computer software for data entry and records management. The student will learn how to use dental software and will explore its utilization potential in the modern dental office. Prequisites: DA: 159 and current enrollment in the Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:164  CLINICAL APPLICATIONS I 2
Theoretical knowledge is applied in the clinical lab setting. Emphasis is on developing skill in assisting with restorative procedures and manipulating dental materials. Prequisites: DA: 144 and Reading Proficiency. 2 lecture, 2 lab hours.

DA:165  DENTAL MATERIALS 1
This course presents the basic physical properties and technical aspects of materials used in restorative and laboratory procedures with emphasis on restorative materials, dental cements, gypsum products, and impression materials. Prequisites: Current enrollment in the Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:166  DENTAL LAB PROCEDURES 1
This course is a continued study of dental materials, focusing on those materials used in the fabrication of appliances and prostheses. Lab sessions give the student an opportunity to develop skill in manipulation of material and use of lab equipment. Prequisites: DA: 164, DA: 165, current enrollment in the Dental Assisting Program and Reading Proficiency. 0.50 lecture, 1 lab hour.

DA:167  DENTAL RADIOLOGY II 1
A study of the principles of extraoral radiography, variations in intraoral radiographic procedure, physical properties and biological effects of radiation, and the appearance of normal anatomical structures and pathological conditions. Prequisites: DA: 157, current enrollment in the Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:168  INTEGRATED DENTAL SCIENCES 2
A study of basic anatomy and physiology with emphasis on structures of the head, neck, and oral cavity. Dental anatomy, oral embryology and histology, oral pathology, and pharmacology are also covered in this course. Prequisites: DA: 148, current enrollment in the Dental Assisting Program and Reading Proficiency. 2 lecture hours.

DA:169  PREVENTIVE DENTAL HEALTH 2
A study of the principles of preventive dentistry in terms of oral health maintenance and nutrition. This course emphasizes the dental assistant's role in dental health teaching, patient motivation, and preventive intraoral procedures. Prequisites: Current enrollment in the Dental Assisting Program and Reading Proficiency. 2 lecture hours.

DA:172  DENTAL PRACTICE MANAGEMENT 1
A study of principles and procedures related to the daily operation and management of the dental office. Additional topics include resume preparation and interviewing skills, discussion of legal and ethical issues, and interpersonal work relations. Prequisites: DA: 159, DA: 162, current enrollment in the Dental Assisting Program and Reading Proficiency. 1 lecture hour.

DA:173  CHAIRSIDE ASSISTING: DENTAL SPECIALTIES 2
This course covers the scope and function of the dental specialties, as well as terminology, instrumentation, and treatment procedures unique to each specialty. Emphasis is placed on the assistant's role in chairside procedures and patient teaching. Prequisites: DA: 151, DA: 161, current enrollment in the Dental Assisting Program and Reading Proficiency. 2 lecture hours.

DA:174  CLINICAL APPLICATIONS II 2
The student continues to assimilate and apply theoretical knowledge through practice and demonstration of proficiency in the clinical lab setting. Emphasis on dental specialty procedures, dental health education, dental lab procedures, and special radiographic techniques. Prequisites: DA: 161, DA: 164 and Reading Proficiency. 2 lab hours.

DA:175  DENTAL ASSISTING PRACTICUM II 2
A continuation of practical experience in the general or specialty dental office. The student will acquire new skills and increase proficiency in four handed dentistry techniques, lab procedures, and clinical support functions. Prequisite: DA: 161 and Reading Proficiency. 6 clinical hours.

DA:176  DENTAL ASSISTING PRACTICUM III 2
The student will assume the role and responsibilities of the dental assistant as an integral member of the dental team during this final phase of clinical experience. Emphasis is placed on the application of theoretical knowledge and practical skills in performing advanced dental assisting procedures and clinical support functions. Prequisites: DA: 161, DA: 175 and Reading Proficiency. 6 clinical hours.

DA:201  EXPANDED FUNCTIONS I 1
Techniques and concepts of restorative and preventive expanded function procedures delegated to dental assistants in the state of Missouri as specified in the rules and regulations set forth in the Missouri Dental Practice Act. Procedures include placing restorations and dressings, sizing stainless steel crowns, and use of the air polisher. Prequisites: Current enrollment in the Dental Assisting Program or department approval, and Reading Proficiency. 0.50 lecture, 1 lab hour.

DA:202  EXPANDED FUNCTIONS II 1
Techniques and concepts of prosthodontic expanded function procedures delegated to dental assistants in the state of Missouri as specified in the rules and regulations set forth in the Missouri Dental Practice Act. Procedures include: placing retraction cord, making impressions for fixed and removable prostheses, extra-oral adjustment of prostheses, cementation of permanent appliances or prostheses, and placement of temporary soft liners. Prequisites: Current enrollment in the Dental Assisting Program and Reading Proficiency. 0.50 lecture, 1 lab hour.

DA:203  EXPANDED FUNCTIONS III 1
Techniques and concepts of orthodontic expanded function procedures delegated to dental assistants in the state of Missouri as specified in the rules and regulations set forth in the Missouri Dental Practice Act. Procedures include: preliminary bending of archwires, placement and cementation of bands and brackets, removal or orthodontic bands, and palliative care of orthodontic emergencies. Prequisites: Current enrollment in the Dental Assisting Program and Reading Proficiency. 0.50 lecture, 1 lab hour.

DENTAL HYGIENE

DHY:120  CONCEPTS OF PRE-CLINICAL DENTAL HYGIENE I 3
Development of basic foundations for competent delivery of preventive, therapeutic and educational dental hygiene services to the public. Establish a solid knowledge base for assessment, planning, implementation and evaluation of patient care. Theory and practical aspects of prevention of disease transmission and pre-treatment patient evaluation are emphasized. Basic instrumentation design and technique for use are covered in depth. Prequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level and Reading Proficiency.

DHY:121  CLINICAL APPLICATIONS LAB I 1
DHY:125 PERIODONTICS I
A study of the healthy periodontium and an introduction to gingival conditions and diseases. Acquired soft and hard deposits as well as the microbiology of periodontal diseases are covered in depth. Methods of basic oral physiotherapy are introduced. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency.

DHY:126 DENTAL RADIOLOGY I
A study of the production and effects of radiation. Emphasis is given to the effects of variations in exposure control factors, personnel and patient safety measures, and dental radiographic film and film processing. Anatomical landmarks, and their radiographic presentation are introduced. Techniques for placing, positioning, exposing, processing and mounting intraoral radiographs are covered in depth. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency.

DHY:127 ORAL ANATOMY
Introduction to the study of the teeth, as well as intraoral and perioral structures. Anatomical features of the teeth and oral cavity are covered in depth. Processes and techniques for constructing dental charts and dentition findings are detailed. The dental canines process is introduced. Rationales and techniques for the use of pit and fissure sealants, as a supportive primary preventive procedure, are presented. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency.

DHY:128 BIOMEDICAL SCIENCES FOR THE DENTAL HYGIENIST
This course is designed to acquaint the dental hygiene student with the basic concepts of pathophysiology. It will deal with selected conditions of the cardiovascular, respiratory, immune, nervous and endocrine systems. Emphasis is on the relationship between these conditions and potential actions and treatment modifications in the dental health care setting. Prerequisites: Current enrollment in the Dental Hygiene program. BIO:207, BIO:208, CHM:101 and Reading Proficiency.

DHY:129 DENTAL-MEDICAL EMERGENCIES
Survey of defects/medical problems that have dental management implications and/or possible medical emergency sequelae. Prompt, accurate and ethical emergency prevention, preparation and management techniques are detailed with related legal implications. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency. 1 lecture hour per week.

DHY:130 CONCEPTS OF CLINICAL DENTAL HYGIENE II
Techniques for the assessment of medical status and dental conditions as a basis for the dental hygiene diagnosis, and learning theory as a basis for patient education, are covered. Fluoride, as an individual and a community primary preventive measure, is emphasized. Extrinsic stain removal principles are included. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:120, DHY:121 and Reading Proficiency.

DHY:131 CLINICAL APPLICATIONS LAB II
Application of clinical assessment techniques and caries prevention agents, and instrument care and maintenance. Theory and application of periodontal probe instrumentation, and prostheses and appliances care and maintenance. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:120, DHY:121 and Reading Proficiency.

DHY:132 CLINICAL DENTAL HYGIENE II
Patient contact is established and coordinates with application of the theories, principles, and responsibilities related to dental hygiene practice at the student's current level of knowledge. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:120, DHY:121 and Reading Proficiency.

DHY:136 DENTAL NUTRITION AND BIOCHEMISTRY
This course is designed to acquaint the student with the concepts of biochemistry and cell metabolism, especially those which are required for a clear understanding of nutrition. Major topics of the course include energy balance and the chemistry, digestion, and metabolism of proteins, carbohydrates and fats. Emphasis is on the importance and function of nutrients for health and disease prevention and the relation of nutrition and oral health. Prerequisites: Current enrollment in the Dental Hygiene program, BIO:207, BIO:208 and Reading Proficiency.

DHY:137 ANATOMY AND EMBRYOLOGY OF THE HEAD AND NECK
This course covers the gross morphology and embryology of the structures of the head and neck. Lectures in embryology emphasize development of the face and oral structures. Lectures on gross morphology emphasize the cranial nerves (especially the trigeminal and facial), the muscles of mastication and facial expression, and the blood and lymphatic vessels of the head and neck. Prerequisites: Current enrollment in the Dental Hygiene program, BIO:207, BIO:208 and Reading Proficiency.

DHY:138 GENERAL AND ORAL PATHOLOGY
An introduction to general pathology with emphasis on oral pathosis. Oral diseases and oral manifestations of systemic diseases are studied in depth. Prerequisites: Current enrollment in the Dental Hygiene program, DHY:127 and Reading Proficiency.

DHY:142 CLINICAL DENTAL HYGIENE SUMMER
Students continue to apply the learned theories, principles and responsibilities related to the field of dental hygiene practice in the dental hygiene clinic. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level. DHY:132, DHY:130, DHY:131 and Reading Proficiency.

DHY:215 PAIN CONTROL
The oral and clinical applications of pain control interventions appropriate for use within the context of dental hygiene care delivery. The psychology, physiology, and pharmacology of pain control are covered, with emphasis on the prevention, recognition and management of adverse reactions. Interventions within the legal scope of dental hygiene practice in Missouri are the focus of this course. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:137 and Reading Proficiency.

DHY:220 CONCEPTS OF CLINICAL DENTAL HYGIENE III
Introduction of additional clinical dental hygiene procedures including advanced periodontal instrumentation and skills to further develop the assessment and implementation of the dental hygiene diagnosis and treatment plan. Theories and principles for the use of power scalers, air polishers, pulp vitality testers, cast and models, tooth bleaching, and tray fabrication of the current literature will continue. Prerequisites: Current enrollment in the Dental Hygiene program. DHY:142, DHY:215, ENG:101 and Reading Proficiency.

DHY:221 CLINICAL APPLICATIONS LAB III
Application of clinical dental hygiene concepts learned in Clinical Dental Hygiene III. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:142, DHY:215 and Reading Proficiency.

DHY:222 CLINICAL DENTAL HYGIENE II
Students continue to apply the learned theories, principles and responsibilities related to the field of dental hygiene practice in the dental hygiene clinic and at community dental health facilities. Additional dental hygiene modalities will be implemented into patient treatment care. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:142, DHY:215, COM:101 and Reading Proficiency.
DHY:223 COMMUNITY PUBLIC HEALTH  
This course is designed to provide a study of the history, economics, and management of the public health organization, its delivery, and supportive services. Included are the assessment and control of dental disease through dental personnel roles in schools, industry, civic, and public organizations. Emphasis is placed on examination of the principles of public health, epidemiological methods of investigation, the US health care system, basic concepts in research and biostatistics and community based program planning. Introduction to techniques for evaluating dental/dental hygiene literature is established. Pre requisites: Current enrollment in the Dental Hygiene program, ENG:101, COM:101 and Reading Proficiency.

DHY:225 PERIODONTICS II  

DHY:226 DENTAL RADIOLOGY II  
Advanced study of supplemental dental radiographic techniques and procedures used in contemporary dental practices and facilities. Emphasis is given to extraoral and digital radiography techniques. Supplemental procedures for edentulous and pediatric dental patients are presented. Pre requisites: Current enrollment in the Dental Hygiene program, DHY:126 and Reading Proficiency.

DHY:228 DENTAL PHARMACOLOGY  
A study of pharmaceutical classifications, properties and effects. Emphasis is given to the systemic effects of drugs and their implications in the management of various medical conditions. Pre requisites: Current enrollment in the Dental Hygiene program, BIO:203 and Reading Proficiency.

DHY:230 TRANSITION INTO PROFESSIONAL DENTAL HYGIENE PRACTICE  
Dental hygiene care for cancer patients, dental implants and suspected cases of child abuse are introduced. The health care provider-patient legal relationship and state rules and regulations for the practice of dentistry and dental hygiene are emphasized. Employment-seeking skills are covered. This course includes a community service practicum learning component. Pre requisites: Current enrollment in the Dental Hygiene program, DHY:220, DHY:221, DHY:222, DHY:223 and Reading Proficiency. 2 lecture, 1 other hours per week.

DHY:232 CLINICAL DENTAL HYGIENE IV  
Patient care continues and coordinates with the application of the theories, principles, and responsibilities related to dental hygiene practice in the dental clinic and at off-campus community rotation sites. Students will also complete a community service practicum field experience as a component of this course. Pre requisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:220, DHY:221, DHY:222 and Reading Proficiency.

DIAGNOSTIC MEDICAL SONOGRAPHY

DMS:101 CLINICAL FOUNDATIONS OF ULTRASOUND  
Topics covered in this course include general pathology and pathophysiology, ultrasound terminology, clinical laboratory tests and diagnostic procedure, patient interview and examination techniques, chart and referral evaluation and embryology. Pre requisites: Current enrollment in the Diagnostic Medical Sonography program or permission of the Program Director and Reading Proficiency.

DMS:102 MEDICAL ETHICS AND PROFESSIONAL ISSUES  
This course will examine a number of topics including principles of psychological support, professional interaction skills, multicultural diversity, professional codes of conduct and scopes of practice, pertinent legal principles, administrative procedures and trends in health care systems. Pre requisites: Current enrollment in the program or permission of the Program Director and Reading Proficiency.

DMS:103 ULTRASOUND PHYSICS AND INSTRUMENTATION I  
Topics covered in this course include basic physical principles of ultrasound, Doppler principles and ultrasound equipment controls. Emphasis will be placed on control manipulation and parameters required for optimum sonographic examinations. Pre requisites: Current enrollment in the Diagnostic Medical Sonography program or permission of the Program Director and Reading Proficiency.

DMS:104 ULTRASOUND PHYSICS AND INSTRUMENTATION II  
Topics in the course include transducer parameters, principles of ultrasound instruments and modes of operation, principles of Doppler techniques, methods of Doppler flow analysis and acoustical artifacts. Pre requisites: Current enrollment in the Diagnostic Medical Sonography program or permission of the Program Director and Reading Proficiency.

DMS:105 MEDICAL SONOGRAPHY I  
This course will present normal sectional anatomy and patterns for the most common examinations within abdominal and OB/GYN sonography. An introduction to clinical applications will include the pathophysiologic basis, clinical signs and symptoms and typical sonographic patterns related to the most common abnormalities encountered in the clinical environment. Pre requisites: Current enrollment in the Medical Sonography learning concentration, Diagnostic Medical Sonography program or permission of the Program Director and Reading Proficiency.

DMS:106 MEDICAL SONOGRAPHY SCANNING TECHNIQUES I  
Laboratory demonstration and student performance of standard protocols for the most common abdominal, obstetric and gynecologic sonographic examinations, with emphasis on normal anatomy and pattern recognition. Pre requisites: Current enrollment in the Medical Sonography learning concentration or permission of the Program Director and Reading Proficiency.

DMS:107 MEDICAL SONOGRAPHY PRACTICUM I  
Observation and initial scanning experience of abdominal, obstetrical and gynecologic sonographic examinations. Pre requisites: Current enrollment in the Medical Diagnostic Sonography learning concentration or permission of the Program Director and Reading Proficiency. 16 contact hours per week.

DMS:108 MEDICAL SONOGRAPHY II  
Further study of the clinical applications of abdominal, obstetric and gynecologic sonography. Lecture topics include the pathologic basis, clinical signs and symptoms, related diagnostic procedures and typical sonographic patterns of common and rare conditions and abnormalities encountered in the clinical setting. Pre requisites: DMS:105 or permission of the Program Director and Reading Proficiency.

DMS:109 MEDICAL SONOGRAPHY SCANNING TECHNIQUES II  
Laboratory demonstration and student performance of standard protocols for superficial structures and less common procedures within abdominal and OB/GYN sonography, with emphasis on normal anatomy and pattern recognition. Pre requisites: DMS:106 or permission of the Program Director and Reading Proficiency.

DMS:110 MEDICAL SONOGRAPHY CLINICAL APPLICATIONS I  
Review of abnormal abdominal sonographic examinations in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination. Pre requisites: DMS:105 or permission of the Program Director and Reading Proficiency.

DMS:111 MEDICAL SONOGRAPHY PRACTICUM II  
Clinical performance of abdominal, obstetric and gynecologic sonographic examinations under the supervision of experienced sonographers. Pre requisites: DMS:107 or permission of the Program Director and Reading Proficiency. 24 other hours per week.
DMS:112 CARDIAC SONOGRAPHY I 3
This course will present normal sectional anatomy, hemodynamics, patient assessment and diagnostic testing related to cardiac sonography. An introduction to clinical applications will include the pathophysiologic basis, clinical signs and symptoms and typical findings related to the most common types of adult cardiac disease.
Prerequisite: Current enrollment in the Cardiac learning concentration, Diagnostic Medical Sonography program or permission of the Program Director and Reading Proficiency.

DMS:113 CARDIAC SONOGRAPHY SCANNING TECHNIQUES I 1
Laboratory demonstration and student performance of standard protocols for transthoracic adult cardiac sonographic examinations, with emphasis on normal 2-D, M-Mode and Doppler pattern recognition.
Prerequisites: Current enrollment in the Cardiac learning concentration or permission of the Program Director and Reading Proficiency.

DMS:114 CARDIAC SONOGRAPHY PRACTICUM I 2
Observation and initial scanning experience of transthoracic adult cardiac sonographic examinations. Prerequisite: Current enrollment in the Cardiac Sonography learning concentration, Diagnostic Medical Sonography Program or permission of the Program Director and Reading Proficiency. 16 other hours per week.

DMS:115 CARDIAC SONOGRAPHY II 3
Presentation of the clinical applications of cardiac sonography including the pathophysiologic basis, clinical signs and symptoms and typical findings related to acquired and congenital adult cardiac disease.
Prerequisites: DMS:112 or permission of the Program Director and Reading Proficiency.

DMS:116 CARDIAC SONOGRAPHY SCANNING TECHNIQUES II 1
Laboratory demonstration and performance of pulsed and continuous wave Doppler examinations and less common protocols in cardiac sonography including stress echo and the use of contrast agents.
Prerequisites: DMS:113 or permission of the Program Director and Reading Proficiency.

DMS:117 CARDIAC SONOGRAPHY CLINICAL APPLICATIONS I 2
Review of abnormal cardiac sonographic examinations in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination.
Prerequisites: DMS:112 or permission of the Program Director and Reading Proficiency.

DMS:118 CARDIAC SONOGRAPHY PRACTICUM II 3
Clinical performance of transthoracic adult cardiac sonographic examinations under the supervision of experienced sonographers.
Prerequisites: DMS:114 or permission of the Program Director and Reading Proficiency. 24 other hours per week.

DMS:119 VASCULAR TECHNOLOGY I 3
This course will present normal sectional anatomy, hemodynamics, patient assessment and diagnostic testing related to Vascular Technology. An introduction to clinical applications will include the pathophysiologic basis, clinical signs and symptoms and typical findings related to the most common vascular examinations.
Prerequisites: Current enrollment in the Vascular Technology learning concentration or permission of the Program Director and Reading Proficiency.

DMS:120 VASCULAR TECHNOLOGY SCANNING TECHNIQUES I 1
Laboratory demonstration and student performance of standard protocols for the most common venous and arterial examinations, with emphasis on recognition of normal gray scale and Doppler patterns.
Prerequisites: Current enrollment in the Vascular Technology learning concentration or permission of the Program Director and Reading Proficiency.

DMS:121 VASCULAR TECHNOLOGY PRACTICUM I 2
Observation and initial scanning experience of arterial and venous vascular examinations. Prerequisites: Current enrollment in the Vascular Technology learning concentration or permission of the Program Director and Reading Proficiency. 16 other hours per week.

DMS:122 VASCULAR TECHNOLOGY II 3
Further study of the clinical applications of Vascular Technology including the pathophysiologic basis, clinical signs and symptoms, related diagnostic procedures and typical findings of common and rare conditions of the carotid and lower extremity vascular systems.
Prerequisites: DMS:119 or permission of the Program Director and Reading Proficiency.

DMS:123 VASCULAR TECHNOLOGY SCANNING TECHNIQUES II 1
Laboratory demonstration and performance of standard protocols for both common and rare examinations, including transcranial and peri-orbital Doppler, vein mapping and the upper extremity venous and arterial examinations. Prerequisites: DMS:120 or permission of the Program Director and Reading Proficiency.

DMS:124 VASCULAR TECHNOLOGY CLINICAL APPLICATIONS I 2
Review of abnormal vascular examinations of the carotid and lower extremities in order to further develop critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination. Prerequisites: DMS:119 or permission of the Program Director and Reading Proficiency.

DMS:125 VASCULAR TECHNOLOGY PRACTICUM II 3
Clinical performance of vascular procedures under the supervision of an experienced Vascular Technologist. Prerequisites: DMS:121 or permission of the Program Director and Reading Proficiency. 24 other hours per week.

DMS:201 ULTRASOUND PHYSICS AND INSTRUMENTATION III 3
Topics in this course include quality assurance procedures, biological effects, 3-D ultrasound applications and a general review in preparation for the certification examinations in physics and instrumentation.
Prerequisites: DMS:104 or permission of the Program Director and Reading Proficiency.

DMS:202 MEDICAL SONOGRAPHY III 2
A study of the clinical applications of superficial structures, including the pathophysiologic basis, clinical signs and symptoms, related diagnostic tests and typical sonographic patterns of common and rare conditions encountered in the clinical setting. Prerequisites: DMS:108 or permission of the Program Director and Reading Proficiency.

DMS:203 MEDICAL SONOGRAPHY PRACTICUM III 4
A continuation of clinical experience achievement of minimal competency in the most common examinations. Prerequisites: DMS:111 or permission of the Program Director and Reading Proficiency. 32 other hours per week.

DMS:204 MEDICAL SONOGRAPHY IV 4
This course will present normal sectional anatomy and patterns, and the clinical applications for neonatal neurosonography and the pediatric abdomen and pelvis. The remainder of the course will consist of review in preparation for the certification examinations in Abdomen and OB/GYN sonography.
Prerequisites: DMS:202 or permission of the Program Director and Reading Proficiency.

DMS:205 MEDICAL SONOGRAPHY CLINICAL APPLICATIONS II 2
A further review of less common sonographic examinations in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination.
Prerequisites: DMS:110 or permission of the Program Director and Reading Proficiency.
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<td>DIE:101</td>
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<tr>
<td>DIE:203</td>
<td>TRUCK HEATING, VENTILATION AND AIR CONDITIONING</td>
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Students will complete all clinical competency requirements for the specialties of abdomen, OB/GYN, and superficial structures. Prerequisites: DMS:203 or permission of the Program Director and Reading Proficiency. 24 weekly contact hours.

Further study of the clinical applications of cardiac sonography including pediatric applications and other advanced and/or rare imaging techniques. Prerequisites: DMS:115 or permission of the Program Director and Reading Proficiency.

A continuation of clinical experience with achievement of minimal competency in the most common types of examinations. Prerequisites: DMS:118 or permission of the Program Director and Reading Proficiency. 24 other hours per week.

Further study of the clinical applications of cardiac sonography, including fetal echocardiography. The remainder of the course will consist of review in preparation for the certification examination in cardia sonography. Prerequisites: DMS:207 or permission of the Program Director and Reading Proficiency.

This course examines through practical application the theories of operation, construction, maintenance, disassembly, and assembly of the diesel engine and its supporting systems; including lubrication system, cooling system, and engine brakes. Prerequisite: Reading Proficiency.

This course examines through practical application the types of suspension and steering systems found on medium and heavy trucks. Emphasis will be in areas of manual steering gears and columns, power steering gears, suspension system components, wheel alignment diagnosis, and wheel & tire diagnosis and repair. Prerequisite: Reading Proficiency.

This course examines through practical application the types of basic electricity and the diagnostic equipment used to perform general electrical system diagnosis of medium and heavy truck batteries, starting systems, charging systems, and lighting systems. Prerequisite: Reading Proficiency.

This course will introduce the student to current repair and information systems for trucks. Emphasis will be on computer based systems and on interpreting specifications in both metric and English systems of measurement. Pre requisite: Reading Proficiency.

This course examines through practical application the theories of operation, construction, maintenance, and service of diesel engine fuel systems including; air induction and exhaust systems, mechanical fuel injection systems, and electronic fuel injection systems. Prerequisite: Reading Proficiency.

This course examines through practical application the types of brake systems found on medium and heavy trucks. Emphasis will be in reas of air brakes, foundation brakes, parking brakes, anti-lock brakes, and power brakes. Prerequisite: Reading Proficiency.

This course examines through practical application the theories of electronics and diagnostic equipment used to perform general electronic system diagnosis and repair of medium and heavy truck gauge and warning devices, electronic fuel injection, anti-lock brakes, and electrical accessories. Prerequisite: DIE:103 and Reading Proficiency.

This course examines through practical application the areas of inspection and maintenance on medium and heavy trucks. To include; engine, fuel system, cooling system, lubrication system, cab and hood, electrical, drive train, brakes, and tires and wheels. Prerequisite: Reading Proficiency.

A cooperative education work experience at a local truck or bus repair facility which allows students to apply skills learned in diesel technology courses. Students will also learn new skills and explore employment possibilities while supervised by employer and by a faculty member. Prerequisites: 15 credit hours of DIE courses or departmental approval and Reading Proficiency.

This course examines through practical application the types of air conditioning, heating, and ventilation systems found on medium and heavy trucks. Emphasis will be in the areas of system diagnosis, component repair, and refrigerant recovery, recycling, and handling. Prerequisite: Reading Proficiency.
DIE:204 SERVICE AND PARTS MANAGEMENT 3
This course will introduce the student to current management prac-
tices of parts and service departments in modern truck repair shops.
Shop tools, equipment, and safety will also be emphasized.
Prerequisite: Reading Proficiency.

DIE:205 CO-OP WORK EXPERIENCE II - DIESEL TECHNOLOGY 3
Continuation of DIE:202. Prerequisite: DIE:202 and Reading Proficiency.

DIE:206 MEDIUM/HEAVY TRUCK DRIVETRAINS 3
This course examines through practical application the types of man-
ual and automatic transmission drivetrains found on medium and
heavy trucks. To include: clutches, drive shaft and universal joints,
and drive axles. Prerequisite: Reading Proficiency.

DIETETIC TECHNOLOGY

DIT:102 THE SCIENCE AND PREPARATION OF FOOD 5
Basic principles of food science and preparation with emphasis on
recognition and evaluation of standard products and function of
ingredients. Food science experiments and food preparation exerci-
es focus on adherence to precise procedures. Nutritional concerns in
food preparation, cultural aspects of foods, and recipe analysis using
computer software will be explored. Prerequisite: Reading Proficiency.

DIT:103 FOOD MANAGEMENT 3
Students will study the components of food service management.
Course emphasis is on menu planning and evaluation with a basic
overview and application of concepts in procurement and receiving,
production, distribution, meal service, equipment, facility design, cost
control, quality control, and sanitation. Sanitation certification exam
is given. Prerequisite: Reading Proficiency.

DIT:104 CLINICAL NUTRITION 3
Study of the roles of dietetics professionals in the nutrition care
process, focusing on patient interviewing and counseling, conducting
nutritional assessments, nutrition support and documentation in med-
ical records. Dietary modifications for calorie and nutrient control,
and various disease states, such as diabetes, cancer, cardiovascular
disease and AIDS will be studied. Pre requisites: DIT:115 and Reading
Proficiency.

DIT:106 FOOD MANAGEMENT PRACTICUM 3
Experience in food service departments of designated food service
facilities. Assigned experiences are designed to complement and
reinforce the corresponding lecture courses. Prerequisites: DIT:100,
DIT:103, Permission of the Program Coordinator and Reading Proficiency. 9 additional hours per week.

DIT:107 CLINICAL NUTRITION PRACTICUM 3
Experience in patient care areas of designated health care facilities.
Assigned experiences are designed to complement and reinforce the
knowledge gained in the corresponding lecture courses.
Prerequisites: DIT:100, DIT:104 (may be taken concurrently), permis-
sion of the Program Coordinator and Reading Proficiency. 9 additional
hours per week.

DIT:108 FOOD PREPARATION AND SCIENCE LECTURE 3
This course explores the basic principles of food science, preparation
and selection. Recognition and evaluation of standard products, func-
tion of ingredients, and the link of food service to nutrition and health
will be emphasized. Discussions and demonstrations will focus on
the nutrient content of food and principles of food science and prepa-
ration for nutrient retention and quality. Prerequisite: Reading Proficiency.

DIT:109 FOOD PREPARATION AND SCIENCE LAB 2
Food science principles will be reinforced and applied in lab experi-
ments and recipe production. The scientific method will be used in
the exploration of food science and food preparation methods.

Experiments and preparation will focus on nutrient retention and
high quality products. Material from Food: Preparation/Science
Lecture course will be reinforced. Prerequisite: Reading Proficiency.

DIT:114 APPLIED FOOD SERVICE SANITATION 1
Proper sanitation and safety practices in food service facilities.
Successful completion of course certifies the student to meet
St. Louis City and County law. Prerequisite: Reading Proficiency.

DIT:115 PRINCIPLES OF NUTRITION 3
This is an introductory nutrition class that relates to individual and
family health. Topics include the functions and sources of food nutri-
ents, how the body handles foods through digestion, absorption and
metabolism, and planning health diets for a variety of people.
Appropriate methods of weight control, sports nutrition, and eating
disorders will be covered, as well as an overview of nutrition
throughout the life cycle, food safety, and ethnic influences on the
American diet. Prerequisite: Reading Proficiency.

DIT:201 FOOD SYSTEMS MANAGEMENT 3
Students will study the organization and management in the field of
dietetics, with an emphasis on personnel management, staffing, sched-
uling, labor relations, diversity issues, communication, and performance
appraisal. Management and leadership theories and concepts will be
explored. Students will use computer software to assist with manage-
ment functions. Prerequisites: DIT:103 and Reading Proficiency.

DIT:202 MEDICAL NUTRITION THERAPY 3
Study of the pathophysiology of selected disease states, the evalua-
tion of nutrition status and appropriate nutrition intervention during
various disease processes. Emphasizes the application of clinical
nutrition skills, including counseling clients, interpretation of labora-
tory values, taking vital signs and documentation in the medical
record. Prerequisites: DIT:104 and Reading Proficiency.

DIT:204 SEMINAR: STRATEGIES FOR PROFESSIONAL PRACTICE 2
This course covers techniques for teaching and learning in the field of
dietetics, including the development of curricula, use of audio-
visual materials, and public speaking. Communication with diverse
populations, behavior modification and motivational skills in nutrition
counseling will be addressed. Ethical practice in dietetics, personnel
management, and care of the terminally ill patient will also be cov-
ered. Prerequisite: 20 hours into the Dietetic Technology Program or
Permissions of Program Coordinator and Reading Proficiency.

DIT:206 SEMINAR: DIETETIC PRACTITIONER ISSUES 2
Discussion of the components of the health care delivery system,
including alternative medicine, and private and governmental regula-
tory and provider agencies. Professional self-development, health
care issues and trends, preparation for employment, and registration
examination information will also be included. Prerequisites: DIT:204
and Reading Proficiency.

DIT:207 QUANTITY FOODS 3
Students will apply food preparation and management skills to a
quantity food production system. Food preparation, sensory evalu-
tion, menu planning, recipe development and expansion, food pro-
duction and procurement, personnel management, sanitation, quality
improvement, equipment, food cost calculation/control, and marketing
techniques are emphasized. Facility design and financial management
are discussed. Prerequisites: DIT:103 and Reading Proficiency.

DIT:208 FOOD SYSTEMS MANAGEMENT PRACTICUM 4
Practical application of management concepts and tools. Provides an
opportunity to observe and participate in food service management
situations and use management tools, especially those related to
budget and personnel administration. Prerequisites: DIT:106, DIT:201
(may be taken concurrently), Permission of the Program Coordinator
and Reading Proficiency. 12 additional hours per week.
ECE: 101 INTRODUCTION TO EARLY CARE AND EDUCATION 3
An overview of early childhood programs and curricula, history, trends, and career opportunities are introduced. Quality characteristics of the environment and the role of the professional are examined. Five clock hours (minimum) of observation of children in various settings is required. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE: 102 CREATIVE EXPERIENCES IN EARLY CARE AND EDUCATION 3
This course introduces the expressive philosophy of creativity. Students explore materials and tools useful in creative expression across the curriculum. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE: 103 LANGUAGE AND LITERACY IN EARLY CARE AND EDUCATION 3
Students examine quality literature appropriate for children from infancy through age eight. Appropriate literacy experiences of reading, writing, and language are practiced. Students also examine methods of presentation and the creation of literature-based settings. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE: 104 PRINCIPLES OF EARLY CARE AND EDUCATION 3
This course focuses on the methodology for establishing developmentally appropriate care and education for young children. Topics include, designing appropriate physical environments, play development and facilitation, tailoring curriculum planning toward individual needs and interests of children, and classroom management styles. Prerequisites: ECE:101 and ECE:125 with grades of “C” or better and Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE: 105 CHILD DEVELOPMENT LABORATORY 3
Students will actively participate in the daily operation of a quality early care and education setting for 6 hours each week, plus additional seminar meetings. A qualified supervisor will guide students through selecting, planning, and organizing curriculum in developmentally appropriate ways. Students will be involved in writing and implementing experiences for children as well as reflecting on their own practice. Prerequisites: ECE:104 (or concurrent enrollment) and ECE:101 and ECE:125 with minimum grades of “C” and Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE: 107 EARLY CARE AND SPECIAL EDUCATION 3
Students will be introduced to the field of early care and special education with a focus on intervention and the role of the teacher. The course includes screening, assessment, and working with families. Five clock hours (minimum) of observation and field study is required. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE: 108 INFANT, TODDLER AND TWO-YEAR-OLD CHILDREN 3
This course is a study of the development of infants, toddlers, and two-year-olds. It includes current theories of development and a variety of caregiving practices for both the early care practitioner and parent. Students will observe and participate in an infant, toddler, or two-year-old setting a minimum of 10 hours during the semester. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE: 109 PRESCHOOL EQUIPMENT AND MATERIALS 3
A survey course dealing with the elements of the preschool classroom and the outdoor play area for the preschool child. Includes the relationship between program goals and the choice and arrangement of materials. Prerequisite: Reading Proficiency.

ECE: 110 HEALTH AND SAFETY IN THE PRESCHOOL 2
Designed for persons responsible for the health and safety of preschool children, the course deals with physical safety, symptoms of illness, and first aid. Prerequisite: Reading Proficiency.

ECE: 111 SELF CONCEPT OF THE YOUNG CHILD 3
A course dealing with the development of a child’s identity as it relates to sex, family, and ethnic group. The equivalent of seven hours each week. Prerequisite: Reading Proficiency.

ECE: 112 SOCIAL DEVELOPMENT 3
Students will learn to provide an atmosphere to help children enjoy playing and working and will develop skills in diagnosing and dealing with problems children have in group situations. Prerequisite: Reading Proficiency.

ECE: 113 CLASSROOM MANAGEMENT 3
Students will study their own experiences in an attempt to experience group dynamics and group interaction as they work with young children. Methods include case studies, videotaping, group sharing and conversations with experienced practitioners. Prerequisite: Reading Proficiency.

ECE: 114 CULTURAL AND ETHNIC VARIETY 2
A course designed to help care-givers develop sensitivity to the needs of persons and the expression of these needs as they relate to race and ethnic origin. Course deals with the challenges and opportunities offered by cultural and ethnic variety in a child care facility. Prerequisite: Reading Proficiency.

ECE: 115 HOME-SCHOOL COORDINATION 2
The importance of the family in a child’s life and the ways in which the school and family should work together for the child’s development are covered. Prerequisite: Reading Proficiency.

ECE: 116 ADMINISTRATION: CHILD CARE 3
The operation of a child care facility including staff relations, budgeting, ordering, planning and evaluation of center operation. Prerequisite: Reading Proficiency.

ECE: 117 EARLY CHILDHOOD LEARNING MODELS 2
A study of how children learn, including theories and the formulating and programming of learning objectives. Prerequisite: Reading Proficiency.
ECOE 118 STIMULATION OF LEARNING 2
A course dealing with the stimulation of observation, experimenta-
tion, and problem solving in the young child. Material geared toward
curriculum concerns and curriculum building for preschool programs.
Prerequisite: Reading Proficiency.

ECOE 119 DEVELOPMENT OF PHYSICAL COMPETENCE 1
The means of helping children discover their own bodies, develop
coordination and controlling and using their bodies is covered.
Prerequisite: Reading Proficiency.

ECOE 120 DEVELOPMENT OF CREATIVE EXPRESSION 2
Developing creative expression in the young child through such activi-
ties as music, art and dance. Prerequisite: Reading Proficiency.

ECOE 121 PLAY AND THE YOUNG CHILD 2
The value of children’s play, particularly as a learning opportunity,
is covered in this course. Prerequisite: Reading Proficiency.

ECOE 122 INDIVIDUAL DIFFERENCES IN THE YOUNG CHILD 3
Through observation and case study, students will learn about indi-
gual differences in children, identifying learning styles and special
needs and developing tasks for children to master. Prerequisite:
Reading Proficiency.

ECOE 123 PLANNING AND SCHEDULING IN PROGRAMS FOR YOUNG CHILDREN 2
Scheduling to meet the needs of children is a major focus in this
course. Students will learn how their scheduling can be tempered by
weather, energy levels, attention span and other variables.
Prerequisite: Reading Proficiency.

ECOE 124 CHILD NUTRITION, HEALTH AND SAFETY 3
This course will focus on health, nutrition and safety issues in early
care and education. Topics will include nutrition and nutrition educa-
tion, menu planning, indoor and outdoor safety, childhood diseases
and injuries and appropriate health and hygiene practices for care-
givers, as well as for children. Prerequisite: Reading Proficiency or
concurrent enrollment in RDG:030 or ENG:070.

ECOE 125 CHILD GROWTH AND DEVELOPMENT I 3
Students will study human development from conception to age
eight, including physical and motor, cognitive, language, social and
emotional development. There is an emphasis on the interrelation-
ship of growth and behavior in young children. Eight clock hours
(minimum) of observation is required. Prerequisite: Reading
Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECOE 126 CHILD GROWTH AND DEVELOPMENT II 3
The student will study human development from age eight through-
out the life span. An examination of children’s behavior, typical and
atypical issues facing adolescents, adults, and older adults will occur.
Prerequisite: Reading Proficiency or concurrent enrollment in
RDG:030 or ENG:070.

ECOE 127 FAMILY AND TEACHER INTERACTIONS 3
Students will examine strategies and develop skills in effective com-
munication with individual parents and families. Reflections on the
contemporary American family, developing partnerships, utilizing
community resources, parent education meetings, and home visiting
will be included. Prerequisite: Reading Proficiency or concurrent
enrollment in RDG:030 or ENG:070.

ECOE 200 GUIDING YOUNG CHILDREN 3
A practical study of child guidance literature which includes norma-
tive development, theory, and strategies for guiding children’s behav-
or at home and in diverse child care settings. Observation and field
study of children from infancy through age eight will be the founda-
tion of this course. A minimum of eight clock hours of observation
will be required. Prerequisite: Reading Proficiency or concurrent
enrollment in RDG:030 or ENG:070.

ECOE 201 MATH AND SCIENCE IN EARLY CARE AND EDUCATION 3
Students will design and implement developmentally appropriate
experiences that enhance math and science concepts for children
born to age eight. Topics include implementation strategies, sensory
awareness, problem solving, thinking and questioning skills, exploration and discovery learning. Prerequisite:
Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECOE 202 MOVEMENT AND MUSIC IN EARLY CARE AND EDUCATION 3
The student will explore movement and music as it relates to the
development and interests of young children. Students will prepare
appropriate experiences in gross motor, fine motor, perceptual motor
and auditory perception, targeted toward young children in diverse
populations and settings. Prerequisite: Reading Proficiency or concur-
rent enrollment in RDG:030 or ENG:070.

ECOE 203 EARLY CARE AND EDUCATION PRACTICUM I 3
This course is a continuation of the previous course in which students
will participate in an early childhood setting for 9 hours each week, with additional
seminar meetings. Prerequisites: ECE:104 and ECE:105 with mini-
um grades of “C” and Reading Proficiency or concurrent enrollment
in RDG:030 or ENG:070.

ECOE 204 MANAGEMENT OF EARLY CARE AND EDUCATION SETTINGS 3
This course focuses on the organizational and managerial structure
of various center and home-based settings. Topics include licensing
standards, design, financial responsibilities, employment procedures,
staff development, marketing, and the plan-
ing of center operations. Prerequisite: Reading
Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECOE 205 CHILD AND SOCIETY 3
This course is an introduction to the sociology of child development,
emphasizing the role of the family, school, and community in the
socialization process. The effect of culture and political forces upon
the delivery of appropriate early care and education is discussed, as
well as available community resources for a diverse society.
Prerequisite: Reading Proficiency or concurrent enrollment in
RDG:030 or ENG:070.

ECOE 206 EARLY CARE AND EDUCATION PRACTICUM II 3
This course will focus on the ability to execute all teaching and
management of the assigned early childhood setting. Planning, implemen-
tation, developmentally appropriate guidance methods, as
well as professional job searching preparation is included. The stu-
dent will participate in an early childhood setting for nine hours each
week, with additional seminar meetings. Prerequisite: ECE:203 with a
minimum grade of “C” and Reading Proficiency or concurrent
enrollment in RDG:030 or ENG:070.

ECOE 207 ACTIVITIES FOR SPECIAL INDIVIDUALS 3
Covers practical techniques for working with exceptional individuals
including task analysis and behavior modification. Experience with
screening instruments and charting behavior as part of developing
and implementing individualized programs will be emphasized.
Prerequisites: ECE:107 and Reading Proficiency or concurrent enroll-
ment in RDG:030 or ENG:070.

ECOE 208 BEFORE AND AFTER SCHOOL CARE 3
This course focuses upon the development expectations and unique
needs of the five through twelve-year-old in before and after school
settings and summer programs. Legal issues, community resources,
personnel relationships, nutrition and health concerns, communica-
tion with families, administrative procedures, and curriculum are dis-
cussed. Prerequisite: Reading Proficiency or concurrent enrollment
in RDG:030 or ENG:070.
ECE:209 CAPACITIES/QUALITIES: PHYSICAL LEARNING ENVIRONMENT 1
Review of Competency I. Relating to the set-up of a safe and healthy learning environment for young children. Prerequisite: Reading Proficiency.

ECE:210 CAPACITIES/QUALITIES: THE PROGRAM 1
Review of Competency II. Relating to the advancement of physical and intellectual competency of young children. Prerequisite: Reading Proficiency.

ECE:211 CAPACITIES/QUALITIES: INDIVIDUAL CHILD 1
Review of Competency III. Relating to building the individual strength and positive self-control of the child. Prerequisite: Reading Proficiency.

ECE:212 CAPACITIES/QUALITIES: SOCIAL ENVIRONMENT1
Review of Competency IV. Relating to organizing and sustaining the functioning of children and adults in group learning situation. Pre requisite: Reading Proficiency.

ECE:213 CAPACITIES/QUALITIES: HOME AND CENTER 1
Review of Competency V. Bringing about coordination of child-rearing practices in the home and in the center. Prerequisite: Reading Proficiency.

ECE:214 CAPACITIES/QUALITIES: SUPPLEMENTARY RESPONSIBILITY 1
Review of Competency VI. On carrying out supplementary responsibilities related to children's program. Prerequisite: Reading Proficiency.

ECE:215 SKILL BUILDING WORKSHOP 3
Working in groups, students will study in-depth, special interest areas (motor development, creative activities, language development). Pre requisite: Reading Proficiency.

ECONOMICS

ECO:103 ECONOMICS OF THE BLACK EXPERIENCE 3
This course examines the economic forces that affect African-Americans and other people of African descent. Some of the topics included are: slavery, discrimination, labor markets, education, affirmative action, and Pan-African issues. Prerequisite: Reading Proficiency.

ECO:140 INTRODUCTION TO ECONOMICS 3
A study of basic economic concepts, institutions, and policies, (both macro and micro) necessary for a general understanding of the economy. Normally, Business Administration students and other students who need a six-hour undergraduate sequence in Economics, should take ECO:151 and ECO:152 instead of ECO:140. Prerequisite: Reading Proficiency.

ECO:151 PRINCIPLES OF MACROECONOMICS 3
This course presents an introduction and analysis of economics from a national perspective. Included are the basic concepts relating to supply, demand, income, taxation, exports, imports, money and banking, consumption, savings and investment. The course applies these concepts and their inter-relationships to such problems as the general level of economic activity, employment and unemployment, inflation, monetary and fiscal policies, and economic growth and development. Prerequisite: Reading Proficiency.

ECO:152 PRINCIPLES OF MICROECONOMICS 3
Principles of Microeconomics is an introductory course that describes and analyzes the behavior of households and business firms in the economy. The course includes, among others, the following topics: analysis of the demand and supply of goods and services; price and output determination in competitive and noncompetitive markets; the cost of production of goods and services; determination of the level of rents, wages, interest rates, and profits; international trade and comparative advantage. Prerequisite: Reading Proficiency.

ECO:200 CONTEMPORARY ECONOMIC ISSUES 3
A more intensive examination of such economic problems as inflation, employment and manpower policies, housing, poverty, education, pollution, Medicare, transportation and agriculture than is given in the introductory and principles courses. Prerequisite: ECO:140 or ECO:151 or ECO:152 and Reading Proficiency.

ECO:215 MONEY AND BANKING 3
This course presents the basic economic principles most closely related to the subject of money and banking in a context of topics of interest to present and prospective bank management. The emphasis is on the practical application of the economics of money and banking for the individual bank. Subjects covered include structure of the commercial banking system; the nature and functions of money; banks and the money supply; cash assets and liquidity management; bank investments; loans, earnings and capital; the Federal Reserve System and its policies and operations; Treasury Department operations; and the changing international monetary system. Prerequisite: ECO:151 and Reading Proficiency.

EDUCATION

EDU:101 LITERACY TUTORING 1 - 3
This course will introduce the college student to tutoring techniques and provide tutoring experiences. The student participates in 10 hours of tutoring training prior to placement. The student will apply what was learned during 30-90 hours of tutoring. The student will be observed tutoring and will participate in three reflective meetings. This course is an elective in teacher education and is not required for teacher certification. Prerequisite: PSY:200 and Reading Proficiency.

EDU:102 COMPUTERS IN EDUCATION 3
This course introduces the student to the many uses of microcomputers in education. Topics include introduction to computer technology, software selection, developing computer skills in children and using computers as a teaching tool. Applications for word processing, database, and power point are covered. Prerequisite: Reading Proficiency.

EDU:120 ART FOR CHILDREN 3
The course will acquaint the student with art media and methods appropriate for children. The student will develop projects to promote the child's appreciation of art and to integrate art into the total curriculum. (Same course as ART:185.) Prerequisite: Reading Proficiency.

EDU:129 MUSIC FOR THE CLASSROOM TEACHER 3
Designed for elementary education students without regard to previous musical training. Students are prepared to use music functionally and developmentally in the elementary classroom through singing, through playing the piano and informal instruments, and through responding to music rhythmically. Creative aspects and values of music are emphasized and materials are studied in relation to their future uses in the classroom. (Same course as MUS:129.) Pre requisite: Reading Proficiency.

EDU:200 INTRODUCTION TO CLASSROOM TEACHING 3
An introduction to the teaching profession. Includes lectures, observations and participation in an educational setting. Analyzes the role of the teacher, the teaching methods, and teaching materials. Provides information and experience for students who are considering a teaching career. Pre requisites: PSY:200 and ENG:101 and Reading Proficiency.

EDU:211 FOUNDATIONS OF EDUCATION 3
Foundations of Education provides information that can be used as a basis for further courses in education. Contemporary issues as well as historical, legal, psychological and philosophical contexts of American public education will be discussed. It also provides valuable information for individuals who wish to be informed voters and partners with schools in the educational endeavor. Prerequisite: Reading Proficiency.
EDU:212 ASSISTING IN THE CLASSROOM 4
This course introduces students to the skills and knowledge necessary to be a classroom assistant. The student will spend two hours each week in a college classroom studying teaching techniques, classroom management, and assisting responsibilities that will be applied during six hours of field experience with children. This course is an elective in teacher education and is not required for teacher certification. Prerequisites: EDU:200 and PSY:203 and Reading Proficiency. Field experience 6 hours.

EDU:213 BEHAVIOR INTERVENTIONS WITH THE EXCEPTIONAL CHILD 4
This course provides students the information and experience necessary to becoming a classroom assistant working with exceptional children. The student will spend two hours each week in a college classroom studying communication skills, behavior management techniques and assisting responsibilities that will be applied during six hours per week of field experience with children. This course is an elective in teacher education and is not required for teacher certification. Contact an advisor to determine transferability of the course. Prerequisites: EDU:200 and Reading Proficiency. Field experience 6 hours.

EDU:215 PRINCIPLES OF TEACHING AND LEARNING 3
This course provides an introduction to principles of learning, child development, assessment, and motivation that form the foundation of effective teaching practices. It also provides an introduction to strategies for planning and implementing instruction, formulating valid assessment instruments, and developing effective classroom management techniques. Prequisites: EDU:200, and PSY:203 or PSY:214 and Reading Proficiency.

EDU:216 TEACHER EDUCATION PORTFOLIO DEVELOPMENT 1
This course is the culminating course in the General Transfer Studies Teacher Education Option A.A. Degree. Students complete a Mid-Preparation Portfolio containing documents that demonstrate their mastery of the competencies required for entry into an undergraduate teacher preparation program and detailed in the Missouri Standards for Teacher Education Programs (MoSTEP). Prerequisites: EDU:102, EDU:200, EDU:211, and prior or concurrent enrollment with EDU:215 and Reading Proficiency.

EDU:226 CHILDREN’S LITERATURE 3
This course will familiarize students with examples of good children’s books, for children from infancy to adolescence. It will also help students develop the ability to evaluate a book, analyze its appeal, and present it effectively. (Same course as ENG:226.) Prerequisite: Reading Proficiency.

ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

EE:101 TECHNICAL ELECTRICITY 5
DC and AC circuits, Ohm’s Law, Kirchhoff’s Law and other network theorems; principles of vacuum tubes and semi-conductor devices and their application in various electronic systems; study of DC and AC machines, their applications and controls. Prerequisites: MTH:124 or MTH:144 or above and Reading Proficiency.

EE:106 IBM PERSONAL COMPUTER INSTALLATION AND REPAIR 1
This course will help you learn how to install and repair the popular IBM series of personal computers. Connection and setup of monitors, printers, hard disks, and memory will be covered. Some previous electronics or computer experience is recommended but not required. Prerequisite: Reading Proficiency.

EE:107 ADVANCED TROUBLESHOOTING AND COMMUNICATIONS 1
This course will cover in depth the hardware, software and peripheral equipment and miscellaneous accessories involved in computer interaction and possible problems that can develop and how to

EE:108 PC TECHNICIAN INTERNSHIP 3
This course requires 240 hours of practical experience in a work environment functioning as a PC repair technician. Experiments must be jointly supervised by an on-site supervisor and a college faculty member. Prerequisites: IS: 130, EE:106, EE:107 and Reading Proficiency.

EE:109 PERSONAL COMPUTER CONFIGURATION 1
This course is designed to teach the student to configure the IBM-compatible personal computer for optimum performance. Emphasis will be placed on the interaction between peripheral equipment and applications. Prior experience with personal computers and DOS is highly recommended. Prerequisite: EE: 106 and Reading Proficiency.

EE:110 TECHNICAL ELECTRIC CIRCUITS I 4
This combination classroom and laboratory course is a study of the basics of electricity and electrical circuits. It includes such fundamentals as static electricity, resistance, Ohm’s Law, Kirchoff’s Laws, power, series and parallel circuits, voltage dividers, magnetism and electromagnetic induction as well as an introduction to generators. Requisite: concurrent enrollment in MTH:124 and Reading Proficiency.

EE:111 TECHNICAL ELECTRIC CIRCUITS II 4
This course is the continuation of EE:110. The basic meter types as to construction and operation are first studied. The concepts of alternating current as to frequency, period, amplitude wave length, phase relationship, maximum instantaneous, average and peak values are then considered. Inductance, capacitance and reactance are then studied from simple parallel or series circuits to complex circuits. Transformers, power and resources are also included. Prerequisites: EE: 110 and Reading Proficiency.

EE:112 TECHNICAL ELECTRONICS I 5
The basic principles of electronics will be introduced in this course. Semi-conductor theory with emphasis on diodes and transistors. The diode and bipolar devices will be studied in their applications to rectifiers, small signal amplifiers and power amplifiers. Prerequisites: Concurrent enrollment in EE: 110 and EE: 111 and Reading Proficiency.

EE:114 PERSONAL COMPUTER COMMUNICATIONS 1
This course focuses on computer connectivity to the electronic information systems. The course will highlight on the hardware, software and service providers end of this technology. Prior experience with personal computers is recommended. Prerequisite: Reading Proficiency.

EE:130 ELECTRIC CIRCUITS I 4
This course begins with the basic physical and electrical units and proceeds to network theorems. Emphasis is on analysis and understanding of circuits. Laboratory experiments parallel classroom work. Pre requisite: Previous or concurrent enrollment in MTH:144 and Reading Proficiency.

EE:131 ELECTRIC CIRCUITS II 4
A continuation of EE: 130, it begins with single phase alternating voltages and currents and proceeds through non-sinusoidal voltages and currents to polyphase circuits. Pre requisite: EE: 130 and MTH:144 and Reading Proficiency.

EE:132 ELECTRONIC DEVICES 5
Theory and characteristics of most of the electronic devices used in industry. Basic practical circuits will be presented to reinforce the theory. Prerequisite: Previous or concurrent enrollment in EE: 131 and Reading Proficiency.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>credit hours</th>
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<tbody>
<tr>
<td>EE:201</td>
<td>COMPUTER PERIPHERALS</td>
<td>4</td>
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<td></td>
<td>A study of the principal peripheral devices used with computers to produce digital operating systems. The devices studied will be dynamic and static rams, led displays, keyboards, memory disks, modems, printers and analog to digital and digital to analog conversions. Prerequisites: EE: 233 and EE: 242 and Reading Proficiency.</td>
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<tr>
<td>EE:202</td>
<td>LOGIC AND SWITCHING CIRCUITS</td>
<td>4</td>
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<td>A study of the production and analysis of nonsinusoidal waveforms and how they are applied to digital systems. Topics covered will consist of transistor switching circuits, pulse shaping networks multivibrators, timing circuits, and counters. Prerequisites: EE: 131 and EE: 132 and Reading Proficiency.</td>
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<tr>
<td>EE:203</td>
<td>OPERATING SYSTEMS</td>
<td>3</td>
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<td>This course consists of a study of the relations between microprocessors, bus structures, interfacing procedures, input output networks, digital communication systems, and programming languages. This information should provide the student with a knowledge of how digital subsystems are combined to form operating systems. Prerequisites: EE: 233 and EE: 242 and Reading Proficiency.</td>
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<tr>
<td>EE:207</td>
<td>INDUSTRIAL INSTRUMENTATION</td>
<td>3</td>
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<td>This course covers the use and function of various electronic instruments used in industry. Topics include measurement errors, analog meters, oscilloscopes, signal generators, transducers, noise, and digital instrument. Pre requisite: EE:112 and Reading Proficiency.</td>
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<tr>
<td>EE:208</td>
<td>TECHNICAL ELECTRONICS II</td>
<td>5</td>
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<tr>
<td>EE:210</td>
<td>TECHNICAL ELECTRIC MACHINES</td>
<td>4</td>
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<td>Direct current and alternating current motors and generators construction and characteristics are studied, as well as the associated starting and control circuitry. The laboratory experiments will deal with related classroom work. Pre requisite: EE: 111 and Reading Proficiency.</td>
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<tr>
<td>EE:211</td>
<td>TECHNICAL POWER TRANSMISSION-DISTRIBUTION</td>
<td>3</td>
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<tr>
<td></td>
<td>Considers basic wiring fundamentals, applications of series and parallel circuits, purpose of electrical testing instruments, feeder and branch circuit protection, fuse and circuit breaker protection, grounding practices and lightning protection; outline various types of power generating plants, hydro, steam, nuclear, and their purposes; defines transmission and distribution circuits and their functions of bringing electrical energy from generating plants to customers. Prerequisite: EE: 111 and Reading Proficiency.</td>
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<tr>
<td>EE:221</td>
<td>ELECTRONIC TROUBLESHOOTING</td>
<td>3</td>
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<td>This course will present various techniques for electronic troubleshooting. It will attempt to coordinate all of the isolated facts taught in prior courses so the student will have an organized approach to problems on the job. Actual problems on fairly current industrial equipment will be used to practice these skills. Prerequisite: EE: 208 and Reading Proficiency.</td>
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<tr>
<td>EE:230</td>
<td>ANALOG AND DIGITAL ELECTRONICS</td>
<td>3</td>
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<td>A study of the operational amplifier as a scanner and integrator. The “bootstrap method” of analog computer patching. Digital fundamentals include number systems, Boolean algebra, logic circuits, memory devices, binary elements and input/output devices. Prerequisite: PHY:115 and Reading Proficiency.</td>
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<tr>
<td>EE:233</td>
<td>DIGITAL LOGIC</td>
<td>4</td>
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<tr>
<td></td>
<td>Digital computer fundamentals from the systems and circuit approach and an introduction to the basic theory of analog computers. Prerequisites: EE:112 or EE: 132 or EE: 101 and MTH:124 and Reading Proficiency.</td>
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</tr>
</tbody>
</table>
EMERGENCY MEDICAL TECHNOLOGY

EMT:121 EMERGENCY CARE, PRINCIPLES, AND TECHNIQUES 8
This course meets all the current requirements for Missouri State EMT-Basic licensure. It includes the assessment and care of the sick and injured, pediatric and geriatric emergencies, childbirth, defibrillation, lifting and moving of patients, hazardous material situations and the use of adjunctive EMS equipment. Prerequisites: American Heart Association Cardiopulmonary Resuscitation (CPR) for Health Care Providers, and Reading Proficiency.

ENGINEERING GRAPHICS

EGR:050 FUNDAMENTALS OF DRAFTING 3
First course in drafting for persons with little or no previous drafting coursework. Practice of using drafting tools, board skills, good line work, lettering, geometric construction, accurate layout of multiview and pictorial drawings and basic dimensioning will be emphasized.

EGR:100 ENGINEERING DRAWING 3
This course uses a combination of instruments and CAD systems for making drawings. The course includes use of instruments, lettering, geometrical constructions, technical sketching, principles of orthographic projection, pictorial drawing, descriptive geometry, sectional views and conventions, auxiliary views and dimensioning. Prerequisites: EGR:050, previous drafting work, or permission of Department and Reading Proficiency.

EGR:104 ELECTRONIC DRAFTING 2
Review of basic drafting with emphasis on technical sketching and lettering. Topics include schematic diagrams, block diagrams, electronic symbols, etched circuit layout, wiring diagrams, mechanical and electronic detail and assembly drawings. Prerequisite: Reading Proficiency.

EGR:110 DESCRIPTIVE GEOMETRY 3
An advanced drafting course for developing graphic problem skills in applications of architectural, civil and mechanical technology. Emphasis on logical sequences in theory of reference planes, points, lines and planes in space, intersections of lines and planes, angles between lines and planes and curved surfaces in space. Prerequisites: EGR:100 and Reading Proficiency.

EGR:133 INTRODUCTION TO AUTOCAD I 2

EGR:134 CAD/CAM WITH AUTOCAD 2
Introduction to computer aided manufacturing using AutoCAD. Drawing setup: layers, units, colors. Drawing procedures: Datum points and lines, precise geometry, blocks. Tool path generation, tool path verification, geometry and data extraction. Federates, post-processor output for specific machine tool controllers. Actual machining on three axis mills, 2 axis lathe. Prerequisites: EGR:133 and Reading Proficiency.

EGR:135 CADD MANAGEMENT 2
CADD System setup and management. Hard disk setup and management, file storage management, system customization, archiving, drawing translation between versions. Standardization of layering, naming, numbering and plotting conventions, networking. Prerequisites: EGR:133 and Reading Proficiency.

EGR:137 CUSTOMIZING AUTOCAD 2
Installing AutoCAD. Creating DOS batch files for system startup. Running multiple configurations. Customizing screen and tablet menus, creating macro instructions. Customizing, font and shape files. Introduction to LISP programming. Prerequisites: EGR:114 and Reading Proficiency.

EGR:138 LISP PROGRAMMING FOR AUTOCAD 2
Introduction to LISP programming language. Using Auto LISP for input, output, and AutoCAD database programming. Creating useful menu and LISP macros for specialized drawing application. Prerequisites: EGR:127 and GE:101 and Reading Proficiency.

EGR:139 3-D AUTOCAD WITH AUTOSHAD 2
3-D drawing concepts using AutoCAD Version 10, generation of objects using true 3 dimensional database. User coordinate system, X,Y,Z coordinate system and x,y,z point filters. Extensive practice with various 3-D surfaces. Use of vpoint and dview commands to select viewing angle or perspective view. Settings lights, camera, and scenes to generate shaded images and movies. Prerequisites: EGR:133 and Reading Proficiency.

EGR:140 COMPUTER AIDED DRAFTING AND DESIGN I 3
This course provides the student with knowledge and implementation of skills used in Computer Aided Drafting. Computer drawings will include geometric constructions, multiple views, sectional views, and dimensioning. Computer operations will include editing, filing and retrieving drawings to produce an industrial quality drawing using a plotter. Prerequisites: EGR:100 and GE:101 or departmental approval and Reading Proficiency.

EGR:141 INTRODUCTION TO AUTOCAD II 2
Continuation of Introduction to AutoCAD 1. DOS for AutoCAD, Blocks, attributes, symbol libraries, bill of material extraction, screen and tablet menus, digitizing drawings, slides and slide shows, introduction to LISP language. Prerequisites: EGR:133 and Reading Proficiency.

EGR:143 INTRODUCTION TO MICROSTATION 2
The student will learn to use Microstation drawing software to set up drawings; control the levels, colors and linetypes; place and modify elements and patterns; dimension; plot; and link drawing files. The student should possess basic knowledge of technical drawing. Prerequisite: Reading Proficiency.

EGR:144 MICROSTATION II 2
This course is a continuation of Introduction to Microstation building on the fundamentals with more advanced drawing techniques. 3-D drawing will also be included. Adapting the Microstation software will be studied in simple menu customization and user commands. Prerequisites: EGR:143 and Reading Proficiency.
EGR:145  COMPUTER SOLIDS MODELING
Designing and drawing objects using three dimensional solids modeling computer software. Extrusion revolution, sweeping, meshing techniques to define solids. Addition, subtraction, filleting to modify primitives. Projection of working drawings and shaded pictorials. Analysis of mechanical properties. Prerequisites: EGR:100 and EGR:133 and Reading Proficiency.

EGR:255  ADVANCED COMPUTER AIDED DRAFTING
Topics covered in this course will include 2-D and 3-D drawing concepts, customizing menus, creating macros, symbol libraries, bill of material extraction, creating production drawings, modeling and shading. Assigned labs will include an extended project and portfolio development. Prerequisites: EGR:141 or EGR:140 or EGR:144 and Reading Proficiency.

ENGINEERING SCIENCE

ESC:100  ENGINEERING COMPUTER APPLICATIONS AND DESIGN
This course provides the student with basic skills in the use of Computer Aided Drafting (CAD), word-processing, spreadsheets, and computer math software. Students will be divided into teams to solve an engineering related design problem. They will need to conceptualize and build their project/product, and prepare and present a report. They will utilize the computer and applications software they have learned in the class as a tool in presentation and presentation of their report. Prerequisite: Reading Proficiency.

ESC:101  SCIENTIFIC COMPUTER PROGRAMMING
This course emphasizes instruction in computer programming language to solve engineering problems. Instruction will include such topics as: study of digital computer systems, programming techniques, program structure, coding, execution, debugging and verification of programs. Computer laboratory exercises will be conducted to analyze, interpret and synthesize engineering data. Prerequisites: ESC 100 or departmental approval, and Reading Proficiency.

ESC:200  ENGINEERING CIRCUITS I
This is a problem-solving course that develops analytical skills important for all engineering disciplines as well as fundamental circuit theory for electrical engineers. The course covers circuit elements and the fundamental laws governing their behavior, network theorems, and analysis techniques, including transient responses. Circuit simulation using computer models and practical circuit testing are included in the laboratory work. Prerequisites: PHY:122 and concurrent enrollment in MTH:230 and Reading Proficiency.

ESC:201  ENGINEERING CIRCUITS II
This is a problem solving course that develops analytical skills important for all engineering disciplines as well as fundamental circuit theory for electrical engineers. The course covers sinusoidal AC circuit analysis (including AC power and three-phase systems, mutual inductance and transformers, complex frequency, and filters). The primary focus of this course is on phasors and frequency-domain responses. Laboratory work will include circuit simulation using computer models, as well as practical limitations of these models. Prerequisites: ESC:200 and Reading Proficiency.

ESC:202  THERMAL ANALYSIS
Basic principles of thermodynamics and heat transfer. First and second laws of thermodynamics and application to engineering systems. Fundamentals of heat transfer by conduction, convection and radiation with applications. Prerequisites: MTH:230 and PHY:223 and Reading Proficiency.

ESC:203  ENGINEERING MECHANICS I
Application of the principles of mechanics to the solution of engineering problems involving particles and systems in equilibrium. Topics include force systems in equilibrium, centers of gravity, friction, moments of inertia. Where appropriate, vector analysis is used. Prerequisites: PHY:122 and Reading Proficiency.

ESC:204  ENGINEERING MECHANICS II
Application of the principles of mechanics to the solution of engineering problems involving particle and rigid body motion. Topics include linear, curvilinear relative motion, energy, impulse, and momentum. Where appropriate, vector methods are used. Prerequisites: ESC:203 and Reading Proficiency.

ESC:205  MECHANICS OF MATERIALS
Application of principles of mechanics to engineering problems of strength and stiffness. Topics include stress, strain, thin cylinders, beams, torsion, columns, and combined stresses at a point. Prerequisites: ESC:203 and Reading Proficiency.

ESC:206  STRENGTH OF MATERIALS LAB
This is the laboratory component of the Mechanics of Materials course (ESC:205). Students will perform tension, compression, shear, torsion, bending, and hardness tests on various materials in materials testing laboratory. The students will be required to document their test data and write reports summarizing the test and results. Prerequisites: Concurrent or prior enrollment in ESC:205 (ME:278) and Reading Proficiency.

ESC:207  ENGINEERING THERMODYNAMICS
Energy transformations and the relation of energy to the states of matter. Fundamental laws, concepts and modes of analysis which underlie all applications of energy conversion in engineering. Prerequisites: MTH:230 and PHY:223 and Reading Proficiency.

ENGLISH

ENG:001  THE SENTENCE
This course will help students master the fundamentals of sentence writing and punctuation. It is a skill-building course.

ENG:002  SPELLING
This course will point out to the student specific spelling problems as well as provide the student with the means to eliminate such spelling problems.

ENG:003  SENTENCE COMBINING
Using a selected sequence of sentence building exercises, this course will help students develop a feel for both sentence structure and paragraph organization. It is a “skill-building” course, whose main purpose is to help students hear the stylistic options available to them and to help them see patterns of development, both in sentences and paragraphs.

ENG:004  GRAMMAR REVIEW
This course will provide instruction for students who need extensive help with writing problems which may include punctuation, capitalization, usage, sentence construction, coherence and organization.

ENG:005  WRITING IMPROVEMENT
Students work individually on writing style, documentation, and other problems of advanced expository writing.

ENG:006  WRITING EFFECTIVE PARAGRAPHS
This course will help students who have already mastered the writing of sentences to learn about writing longer forms. Beginning with the writing of good topic sentences, it will proceed to consider such issues as paragraph development, unity and coherence. Thus, it will provide an additional valuable support for students who intend to write essays, business letters, stories and other longer prose forms.

ENG:007  WRITING EFFECTIVE PARAGRAPHS FOR BUSINESS
Writing Center will provide instruction in business writing formats: e-mails, letters, memos, and/or reports.
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ENG:013</td>
<td>ESL: ACADEMIC ENGLISH PREP</td>
<td>1</td>
<td>This course is designed for non-native English speakers who need to improve basic language skills before beginning the ESL Academic sequence. Students will work individually with the assistance of the designated ESL support staff. Prerequisite: Michigan test and writing sample.</td>
</tr>
<tr>
<td>ENG:014</td>
<td>ESL: ACADEMIC LISTENING COMPREHENSION</td>
<td>1</td>
<td>This course is designed to help non-native English speakers increase their ability in listening comprehension. Students will work individually with the assistance of the designated ESL support staff.</td>
</tr>
<tr>
<td>ENG:015</td>
<td>ESL: VOCABULARY DEVELOPMENT FOR NON-NATIVE SPEAKERS</td>
<td>1</td>
<td>This course is designed to help non-native English speakers increase their knowledge of English vocabulary, especially idioms and general academic vocabulary. Students will work individually with the assistance of the designated ESL support staff.</td>
</tr>
<tr>
<td>ENG:016</td>
<td>ESL: GRAMMAR REVIEW FOR NON-NATIVE ENGLISH SPEAKERS</td>
<td>1</td>
<td>This course provides practice for non-native English speakers who need supplementary instruction in English grammar. Students will apply grammar rules through writing and editing activities. Students will work individually with the assistance of the designated ESL support staff. Prerequisites: ENG:051 and/or ENG:061.</td>
</tr>
<tr>
<td>ENG:017</td>
<td>ESL: WRITING SKILLS</td>
<td>1</td>
<td>This course is designed for students who need to demonstrate improved skills in Academic English outcomes before proceeding to the next level. Students will work individually with the assistance of the designated ESL support staff. Prerequisite: Previous or concurrent enrollment in appropriate reading course.</td>
</tr>
<tr>
<td>ENG:020</td>
<td>DEVELOPMENTAL ENGLISH</td>
<td>3</td>
<td>This course provides comprehensive review and intensive drill in the fundamentals of English sentences and paragraphs. Near the end of the semester, students will be counseled concerning their progress and what additional work they may need to accomplish their particular writing goals. Prerequisite: Previous or concurrent enrollment in appropriate reading course.</td>
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<tr>
<td>ENG:021</td>
<td>DEVELOPMENTAL ENGLISH LAB</td>
<td>1</td>
<td>This course offers the students practice in identifying parts of the sentence, correcting sentence structure, punctuation, and agreement. Prerequisite: Recommendation of the Department.</td>
</tr>
<tr>
<td>ENG:022</td>
<td>DEVELOPMENTAL ENGLISH LAB</td>
<td>2</td>
<td>This course offers the students practice in identifying parts of the sentence, correcting sentence structure, punctuation, and agreement. Prerequisite: Recommendation of the Department.</td>
</tr>
<tr>
<td>ENG:030</td>
<td>INTRODUCTION TO COLLEGE WRITING</td>
<td>3</td>
<td>This course is designed primarily to help prepare students for successful work in College Composition I, though it may benefit anyone desiring to improve basic grammar and writing skills. The course focuses on fundamental writing problems through extensive work in the construction of sentences, paragraphs, and short essays. Previous or concurrent enrollment in a developmental reading course is encouraged. Near the end of the semester, students will be counseled concerning their progress and what additional work they may need to accomplish their particular writing goals. Prerequisite: ENG:020 with grade of “C” or better, or recommendation of Department.</td>
</tr>
<tr>
<td>ENG:032</td>
<td>INTRODUCTION TO COLLEGE WRITING LAB</td>
<td>2</td>
<td>Students study a series of grammatical elements in order to eliminate structural and grammatical mistakes in their writing. Topics include sentence patterns, punctuation, and sentence combining.</td>
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<tr>
<td>ENG:050</td>
<td>ACADEMIC ENGLISH FOR NON-NATIVE SPEAKERS</td>
<td>6</td>
<td>This course is designed for non-native English speakers who wish to develop English language skills necessary for success in college courses. Instruction in the course will promote overall English language proficiency, with an intensive focus on reading and writing. Additional hours in lab or with an ESL tutor may be required. Prerequisite: Recommendation of ESL staff.</td>
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<tr>
<td>ENG:051</td>
<td>ENGLISH GRAMMAR</td>
<td>3</td>
<td>This course provides non-native English speakers with a review of basic English grammar rules, with attention given to form, meaning, and use. Students will apply rules through speaking and writing activities. Prerequisite: Recommendation of ESL staff.</td>
</tr>
<tr>
<td>ENG:052</td>
<td>ORIENTATION TO EDUCATION AND EMPLOYMENT IN THE USA</td>
<td>2</td>
<td>This course is designed for recent arrivals to the United States. The course will help students develop language skills and background knowledge necessary for functioning in educational and employment situations in the USA. Prerequisite: Recommendation of ESL staff.</td>
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<tr>
<td>ENG:053</td>
<td>LISTENING AND NOTE-TAKING FOR NON-NATIVE SPEAKERS</td>
<td>3</td>
<td>This course is designed for non-native speakers who are new to the higher education system in the USA. Students will develop all language skills, with a focus on listening and note-taking skills, vocabulary, and lecture and discussion structure and content. Prerequisite: Recommendation of ESL staff.</td>
</tr>
<tr>
<td>ENG:060</td>
<td>ACADEMIC ENGLISH FOR NON-NATIVE SPEAKERS</td>
<td>6</td>
<td>This course is designed for non-native English speakers who have demonstrated general fluency in reading and writing English, and need to develop clarity in using English for academic purposes. Instruction in the course will focus on reading and writing responses to texts. Additional hours in lab or with ESL tutor may be recommended. Prerequisites: ENG:050 and ENG:051 with grades of “C” or better.</td>
</tr>
<tr>
<td>ENG:061</td>
<td>ENGLISH GRAMMAR FOR NON-NATIVE SPEAKERS II</td>
<td>3</td>
<td>This course provides non-native English speakers with an intensive review of basic English grammar, with emphasis on application of rules to academic reading and writing tasks. Prerequisite: ENG:050 and ENG:051 with grades of “C” or better.</td>
</tr>
<tr>
<td>ENG:062</td>
<td>SPOKEN COMMUNICATION AND PRONUNCIATION FOR NON-NATIVE SPEAKERS</td>
<td>3</td>
<td>This course is designed for non-native English speakers who wish to improve their comprehensibility in communicating in English. The course will provide practice in stress, rhythm, and intonation patterns, and in troublesome consonant and vowel sounds. Prerequisite: Recommendation of ESL staff.</td>
</tr>
<tr>
<td>ENG:070</td>
<td>ACADEMIC ENGLISH FOR NON-NATIVE SPEAKERS III</td>
<td>3</td>
<td>This course is designed to facilitate non-native English speakers’ performance in college-level courses which require moderate to heavy amounts of reading, writing, and note-taking. Students recommended to take ENG:070 will have achieved the reading and writing performance outcomes of ENG:050 and ENG:060, but still need to improve grammatical and lexical accuracy in a variety of writing tasks. Reading and writing assignments will be linked to assignments in content areas. Prerequisite: ENG:060 and ENG:061 with grades of “C” or better, and ENG:053.</td>
</tr>
<tr>
<td>ENG:100</td>
<td>CAREER ENGLISH</td>
<td>3</td>
<td>Emphasis on career-related writing skills; study and practice in the principles of organization and development of ideas; methods of using reference material, general and professional; presenting oral and written reports; writing and precis. Assignments use material from career areas. Prerequisite: Satisfactory score on placement test and Reading Proficiency.</td>
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</table>

St. Louis Community College
ENG:101 COLLEGE COMPOSITION I 3
This course is designed to meet the writing needs of a wide variety of students in the following ways: 1) prepares students who will continue in college to write acceptable college-level expository essays, 2) provides career students with a strong base for technical and business writing, 3) familiarizes all students with the kinds of writing skills that will be valuable in their everyday experience, 4) provides students with some awareness of the way language functions and affects their lives. To help reach these goals, the course will focus on the elements of clear writing, well-organized expository essays, the necessary critical thinking that must always precede expository writing, analytical reading, and, when necessary, a review of the principles of grammar. Prerequisite: ENG:030 or a grade of “C” or better, or departmental approval and Reading Proficiency or concurrent enrollment in RDG: 030 or ENG:070.

ENG:102 COLLEGE COMPOSITION II 3
This is a course in longer units of composition including the documented research paper, argumentation, and criticism. Prerequisite: ENG:100 or ENG:101 with a grade of “C” or better or departmental approval and Reading Proficiency.

ENG:103 REPORT WRITING 3
This course offers instruction in the kinds of writing required in fields such as business, technology, and health science. Students plan, write, and revise letters, memos, reports, abstracts, and other forms of practical writing. Emphasis is given to writing for particular audiences to solve “real world” writing problems. Prerequisite: ENG:100 or ENG:101 with a grade of “C” or better or departmental approval and Reading Proficiency.

ENG:104 HONORS COLLEGE COMPOSITION I 3
This course is designed for students who have demonstrated above average ability. It covers the same subject matter as ENG:101, but offers a more challenging and a more rewarding experience for the students recommended for this course. Prerequisite: Reading Proficiency.

ENG:105 HONORS COLLEGE COMPOSITION II 3
This course is designed for students who have demonstrated above average ability in ENG:101. It covers the same subject matter as ENG:102, that is, argumentative writing, critical analysis, and research papers. But ENG:105 offers a more challenging and a more rewarding experience for the students recommended for this course. Prerequisite: ENG:101 and recommendation of the Department and Reading Proficiency.

ENG:110 CREATIVE WRITING 3
This is a workshop for beginning and experienced writers. It is designed to encourage and guide students interested in writing poetry, fiction, and drama. Students will be required to produce a certain number of manuscripts, depending upon the form in which they are writing, and to read occasional brief selections. Prerequisite: Reading Proficiency.

ENG:114 WRITING PLAYS AND FILMSCRIPTS 3
This course is designed for the student who has already experimented with several types of creative writing and who wishes special work in a single area. A workshop format will be used with emphasis on the discussion of student work in class. Some lectures will be given, involving the various facets of the writer's role from planning to publication. Prerequisite: Reading Proficiency.

ENG:201 INTRODUCTION TO FICTION 3
The enjoyment, appreciation, and understanding of American, European, African, and Oriental fiction are the goals of this course. The class will explore imagery, symbolism and style, as well as other elements of fiction in short stories and novels. Prerequisite: Reading Proficiency.

ENG:202 INTRODUCTION TO POETRY AND PLAYS 3
This course focuses on the pleasures of poetry and drama. By reading, analysis, discussions and student projects, the student should gain a familiarity with the statements and craft of a selection of American, European, African and Oriental poems and plays. Prerequisite: Reading Proficiency.

ENG:203 AMERICAN LITERATURE 3
American Literature will provide the students with an opportunity to confront a significant part of their literary heritage. This course examines the broad social and ethnic diversity of American writers; it shows how Americans live now and how they used to live. It covers a broad range of subject matter and literary types. It concentrates on appreciation. Also, it pays some attention to the ways in which the works experienced by students can relate to our historical and cultural values. Prerequisite: Reading Proficiency.

ENG:204 AMERICAN LITERATURE BEFORE 1865 3
Presenting the literature written prior to 1865 in the United States, this course offers students the opportunity to gain familiarity with colonial, federalist and national literature through the Civil War. Writers studied include Bradford, Wheatley, Paine, Franklin, Bradstreet, Cooper, Irving, Hawthorne, Emerson, Thoreau and Melville. Prerequisite: Reading Proficiency.

ENG:205 AMERICAN LITERATURE AFTER 1865 3
Concerned with the literature written after 1865 in the United States, this course acquaints students with the contribution of major writers of this period to our literary tradition and our developing culture. Writers studied include Whitman, Dickinson, Twain, James, Jewett, Crane, Adams, Wright, Frost, Millay, Cullen, Hughes, Cather, Faulkner, Hemingway and Sexton. Prerequisite: Reading Proficiency.

ENG:206 MODERN AMERICAN LITERATURE 3
This course deals with American poetry, fiction, and drama from about World War I to the present. Students will look for the main themes and concerns in American writing of the inter-war and post-war periods and will look at trends and techniques in contemporary works. Prerequisite: Reading Proficiency.

ENG:207 HUMOR IN AMERICAN LITERATURE 3
This course explores American humor primarily in written sketches, short stories, and novels by authors from Twain and Thubert to Bombeck and Vonnegut. It also analyzes jokes, movies, comic strips, stand-up comedians, and television sitcoms. The course questions what American humor is, what forces have shaped its growth, what personal and social functions it serves, and what value it might have for contemporary Americans. Prerequisite: Reading Proficiency.

ENG:210 BRITISH LITERATURE BEFORE 1800 3
An investigation into the best literature written in the British Isles, starting with the rough, oral Anglo-Saxon tales of warriors, to the chivalric romances of and bawdy stories about knights and common people, to the searching but exciting poems and plays of the English Renaissance, and finally to the carefully refined 18th Century Literature. The course emphasizes finding the ways in which literature explores the virtues and foibles of human nature and relating these qualities to modern experiences. Prerequisite: Reading Proficiency.

ENG:211 BRITISH LITERATURE AFTER 1800 3
This course covers representative works of major British writers from William Blake at the beginning of the nineteenth century to James Joyce in the twentieth century. The material may consist of poetry, prose essays, short stories, novels and plays. Upon successful completion of the course, students should be aware of the dominant social, cultural and artistic concerns of the period as reflected in the literature. Prerequisite: Reading Proficiency.

ENG:213 THE SHORT NOVEL 3
Some of the greatest fiction is neglected because of its length—too long for short story collections and too short to be included in courses on the novel. This is the short novel or novella—a distinct literary type. Students in this course will study works by such writers as Melville, Tolstoy, Baldwin, Dostoyevsky, Chopin, Conrad, Faulkner, Porter, Wright and others. Prerequisite: Reading Proficiency.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG:224</td>
<td>CONTEMPORARY FICTION</td>
<td>3</td>
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<tr>
<td>ENG:225</td>
<td>POETRY WRITING</td>
<td>3</td>
</tr>
<tr>
<td>ENG:226</td>
<td>CHILDREN'S LITERATURE</td>
<td>3</td>
</tr>
<tr>
<td>ENG:227</td>
<td>LITERATURE OF THE SOUTH</td>
<td>3</td>
</tr>
<tr>
<td>ENG:228</td>
<td>STUDIES IN LITERATURE</td>
<td>3</td>
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<tr>
<td>ENG:229</td>
<td>INTERMEDIATE WRITING WORKSHOP</td>
<td>3</td>
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<tr>
<td>ENG:230</td>
<td>ENVIRONMENTAL LITERATURE</td>
<td>3</td>
</tr>
<tr>
<td>ENG:231</td>
<td>WORLD LITERATURE</td>
<td>3</td>
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<tr>
<td>ENG:232</td>
<td>LITERATURE OF THE CARIBBEAN</td>
<td>3</td>
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</tbody>
</table>

ENG:224  CONTEMPORARY FICTION
This course focuses on the post-WWII novel and short story with emphasis on the fiction of the past fifteen years. In it, students will look at each fictional work as an artistic creation and also as a social document and will, thereby, consider the ways in which contemporaneous art reflects and is reflected by the customs and values of contemporary society. Prerequisite: Reading Proficiency.

ENG:225  POETRY WRITING
This course is designed for the student who has already experimented with several types of creative writing and who wishes special work in the writing of poems. A workshop format will emphasize consideration of student works. Some lectures and presentations will be given, involving the various facets of the writer's role from inspiration to preparing manuscripts for publication. Prerequisite: Reading Proficiency.

ENG:226  CHILDREN'S LITERATURE
This course will familiarize students with examples of good children's books, for children from infancy to adolescence. It will also help students develop the ability to evaluate a book, analyze its appeal, and present it effectively. (Same course as EDU:226.) Prerequisite: Reading Proficiency.

ENG:227  LITERATURE OF THE SOUTH
Although the South is an integral part of America, it has always considered itself a place set apart from the rest. This course will explore whether Southerners do have a particular point of view. It will examine whether Southern literature is different from literature written in other parts of the country and the nature of that difference. This course will analyze these issues by examining works written by Southern men and women, both black and white. Although the course will include works from the 19th century, the majority will come from the 20th century. Prerequisite: Reading Proficiency.

ENG:228  STUDIES IN LITERATURE
This course offers a basic introduction to literature, by being organized around specific themes, historical periods, or genres, which may vary from semester to semester. Students will learn how to read, analyze, write about, and appreciate literature by focusing on particular issues raised by the related works that the course addresses. Refer to "Schedule of Credit Courses" for current course topics. Prerequisite: Reading Proficiency.

ENG:229  INTERMEDIATE WRITING WORKSHOP
This is a workshop for students of all ages and backgrounds with some creative writing experience who want to begin or continue creative writing projects with the support and help of an instructor and peers. Projects may include poetry, fiction, scripts, personal essays, memoirs, and career-related writing. Students will contract to do the kinds of writing projects they choose. Prerequisite: ENG:110 or permission of the instructor and Reading Proficiency.

ENG:230  ENVIRONMENTAL LITERATURE
This college-level course is a study of literature about nature and the environment. The students will read and discuss a selection of non-fiction, fiction, and poetry written by prominent authors about the natural world and related topics. Prerequisite: Reading Proficiency.

ENG:231  WORLD LITERATURE
This course offers an introduction to literature organized around works by writers from outside the United States. Its geographical focus varies from semester to semester, as do its choices of literary genres. Students will learn how to read, analyze, write about, and enjoy literature. They will learn to see literature in its historical and cultural contexts. They will also grow by learning about literature of other cultures. Prerequisite: Reading Proficiency.

ENG:232  LITERATURE OF THE CARIBBEAN
This course is a survey of Caribbean literature that represents varied periods and cultural groups. Focus will be on the English-speaking Caribbean literary works, but literature in translation from the Spanish-, Dutch-, and French-speaking islands may be included. Through a study of a range of short stories, poetry, novels, plays, and essays, students will be introduced to major themes in Caribbean writing, including race, ethnicity, identity formation, migration, colonization and its legacies, myths of Africa, and transnational identities. Prerequisite: Reading Proficiency.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>FSH:208</td>
<td>FASHION MERCHANDISING INTERNSHIP I</td>
<td>3</td>
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<tr>
<td>FSH:209</td>
<td>FASHION MERCHANDISING INTERNSHIP II</td>
<td>3</td>
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<tr>
<td>FIN:100</td>
<td>PERSONAL FINANCE</td>
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<tr>
<td>FIN:101</td>
<td>INTRODUCTION TO INVESTMENTS</td>
<td>3</td>
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<tr>
<td>FIN:201</td>
<td>FUNDAMENTS OF FINANCE</td>
<td>3</td>
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<tr>
<td>FIN:105</td>
<td>INSPECTION AND FIRE PREVENTION</td>
<td>3</td>
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<tr>
<td>FIN:106</td>
<td>TEACHING TECHNIQUES FOR FIRE DEPARTMENT PERSONNEL</td>
<td>3</td>
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<tr>
<td>FIN:110</td>
<td>BASIC FIRE PROTECTION AND ALARM SYSTEMS</td>
<td>3</td>
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<tr>
<td>FIN:202</td>
<td>FIRE INVESTIGATION</td>
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<td>FIN:204</td>
<td>FIRE FIGHTING TACTICS AND STRATEGY</td>
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<td>FIN:205</td>
<td>FIRE SCIENCE HYDRAULICS</td>
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<td>FIN:207</td>
<td>CODES AND ORDINANCES</td>
<td>3</td>
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<tr>
<td>FIN:208</td>
<td>HAZARDOUS MATERIALS</td>
<td>3</td>
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</table>

**FINANCE**

This course involves the study of personal financial planning and is intended to provide the student with a basis of knowledge that will enable the individual to better manage their income while maximizing the value received for the expenditures made. This course also addresses the safeguarding of assets and will provide the student with the tools for developing their own financial plan. Topics may include financial planning, developing personal financial statements and plans, insurance needs, basic tax strategies, and stock market options for personal financial planning. Pre requisite: Reading Proficiency.

**FIN:100 PERSONAL FINANCE**

A survey course, designed for the novice investor with a rigorous examination of the workings of the financial markets. Among the topics covered are an overview of financial markets from the investor perspective, analysis and valuation of equity securities, fixed income and leveraged securities, mutual funds, and overall portfolio management. Pre requisite: Reading Proficiency.

**FIN:101 INTRODUCTION TO INVESTMENTS**

A detailed study of national, state and local ordinances applicable to the fire service and electrical, plumbing and building codes. Some red will include nuclear reactions, ionization, radiation detection equipment, peacetime uses of radioactive materials and control of resulting hazards. Pre requisite: Reading Proficiency.

**FIN:105 INSPECTION AND FIRE PREVENTION**

Inspection surveying and mapping procedures associated with the organization and function of fire prevention. A survey of the various codes and standards; how these various standards are used in inspecting buildings for fire hazards; how to actually inspect a building with respect to existing fire protection equipment-structural details that must be known to avoid undue loss in case of fire. Opportunity will be provided to make at least one complete inspection and report on an operating industry. Pre requisite: Reading Proficiency.

**FIN:106 TEACHING TECHNIQUES FOR FIRE DEPARTMENT PERSONNEL**

The basic theories of learning and methods of instruction are discussed. The use of lectures, demonstrations, and visual aids as applied to the instruction of fire department personnel is illustrated. Practice is provided in the use of lesson plans, visual aids, tests, and other teaching devices including module on the use of microcomputers as an instructional device. Each student's application of a teaching procedure is critically discussed and evaluated. Pre requisite: Reading Proficiency.

**FIN:110 BASIC FIRE PROTECTION AND ALARM SYSTEMS**

A study of modern fire protection, including water supply, private fire protection methods, chemical extinguishers, and a study of various types of fixed and portable fire detection and alarm systems. This will include municipal, central station, proprietary and local alarm systems; heat, flame and smoke detectors; telephone, teletype and radio systems. Pre requisite: MTH:124 and Reading Proficiency.

**FIN:202 FIRE INVESTIGATION**

Methods determining point of origin, path of fire travel and fire causes; motives and methods for fire setting, recognizing and preserving evidence; arson laws, and types of arson fires, court testimony, reports and record. Pre requisite: Reading Proficiency.

**FIN:204 FIRE FIGHTING TACTICS AND STRATEGY**

Fundamental strategy and method of attack employed for various fire problems. Principles of fire fighting as applied to small and large scale fire problems and problems that are complex or unique in nature. Some practice with problems involving the use of tactics and strategy that employ equipment and manpower at various organizational levels. Pre requisite: Reading Proficiency.

**FIN:205 FIRE SCIENCE HYDRAULICS**

A study of the mechanics of liquids, particularly as pertains to water flow, hydrants, pumps, standpipes, hoses, nozzles, sprinkler systems as adapted to fire fighting practices. This involves interpretation of readings from various kinds of manometers, pressure gauges, and hydromatic devices. Fluids in motion, head calculations, pumping problems, friction losses, cavitation, velocity of flow, use of pitot and venturi meters, are studied. Also the problems of supplying fire service pumps and efficiently using them is studied. Pre requisite: MTH:124 and Reading Proficiency.

**FIN:207 CODES AND ORDINANCES**

A detailed study of national, state and local ordinances applicable to the fire service and electrical, plumbing and building codes. Some coverage of problems in mutual aid pacts and agreements with other fire departments, and relations with civil defense and other government agencies. Pre requisite: Reading Proficiency.

**FIN:208 HAZARDOUS MATERIALS**

A second semester of basic fundamentals of chemistry used in fire science with emphasis on less common special hazards. Topics covered will include nuclear reactions, ionization, radiation detection equipment, peacetime uses of radioactive materials and control of resulting hazards. Pre requisite: Reading Proficiency.
FIR:210  ARCHITECTURAL STRUCTURAL REPRESENTATION-MATERIALS  3  
Basic fundamentals of building plan reading including conventional delineation, symbols, abbreviations, methods of showing floor plans, elevations, and dimensions. Also basic characteristics of various materials and building structural systems when subjected to fire. Pre requisite: MTH:124 and Reading Proficiency.

FRENCH

FRE:101  ELEMENTARY FRENCH I  4  
A beginning course presenting the basic sentence structure and vocabulary necessary to participate in elementary French conversation and to begin reading short French passages. Pre requisite: Reading Proficiency.

FRE:102  ELEMENTARY FRENCH II  4  
A continuation of FRE:101. Students complete basic elements of French grammar, increase their vocabulary and gain added facility in speaking and reading French. Pre requisite: FRE:101 or 2 years of high school French and Reading Proficiency.

FRE:103  BASIC FRENCH CONVERSATION I  3  
Construction and practice in fundamental vocabulary, basic sentence structures and social conventions necessary for simple interpersonal communication in French. Emphasis is on the use of French in everyday situations. Pre requisite: Reading Proficiency.

FRE:104  BASIC FRENCH CONVERSATION II  3  
A continuation of FRE:103; further practice in speaking the language through the acquisition of new vocabulary and the learning of French sentence structure. Pre requisite: FRE:103 and Reading Proficiency.

FRE:115  INTRODUCTION TO FRENCH CULTURE  3  
This course closely examines the provinces, cities, geography, early settlement, and climate of France in the first half of the semester. The second half is a study of the government, economy, politics, educational system, and The European Community. Emphasis is on present-day France. The course is taught in English. Pre requisite: Reading Proficiency.

FRE:201  INTERMEDIATE FRENCH I  4  
A continuation of FRE:102. Emphasis is on becoming proficient in using the language so that students can function in a francophone culture. Primary concentration is on developing speaking and listening skills. Testing is both oral and written. Prerequisites: FRE:102 or 3 or more years of high school French and Reading Proficiency.

FRE:202  INTERMEDIATE FRENCH II  4  
The major emphasis is preparing students to be functioning members of a French speaking community. The student will gain the linguistic skills necessary to perform everyday situations. Speaking and listening skills are further developed. Testing is both oral and written. Prerequisites: FRE:201 or 4 or more years of high school French and Reading Proficiency.

FRE:203  INTERMEDIATE FRENCH CONVERSATION I  3  
An intermediate level course which stresses spoken French while both introducing new grammatical forms and reviewing previously learned structures. Prerequisite: FRE:104 or FRE:102 or two or more years of high school French and Reading Proficiency.

FRE:204  INTERMEDIATE FRENCH CONVERSATION II  3  
An intermediate level French conversation class designed to develop more confidence in oral French by discussing written materials in French. Pre requisite: FRE:203 or FRE:201 or two or more years of high school French and Reading Proficiency.

FRE:206  ADVANCED FRENCH CONVERSATION AND COMPOSITION  3  
Designed to increase written and oral fluency in French. This course gives the student the opportunity to express himself/herself in a wide variety of everyday topics. Short compositions will be written and brief oral reports presented to the class. A relaxed, informal atmosphere created to stimulate conversation. Pre requisite: FRE:202 or equivalent and Reading Proficiency.

FUNERAL DIRECTING

FD:101  FUNERAL MANAGEMENT/MERCHANDISING  6  
The practices and procedures of establishing a funeral home are covered including personnel management, vital statistics, records and forms. Government regulations of OSHA, FTC and ADA are studied. An in-depth study of merchandising funeral goods including caskets and vaults is covered. Pre requisite: Admitted to Funeral Director Program and Reading Proficiency.

FD:102  FUNERAL SERVICE PSYCHOLOGY  3  
This course studies the implications of grief and bereavement and the role of the funeral director in counseling the bereaved. The social role of the funeral director in the dynamics of grief and an investigation into the changing attitudes toward death is also studied. Pre requisite: Prior admissions to Funeral Director Program and Reading Proficiency.

FD:103  HISTORY OF FUNERAL SERVICE  3  
The historic role of the funeral director is investigated from ancient to present day as well as projected directions and functions of the funeral profession. Ethical and legal implications of these changing trends is discussed. Various religious, ethnic, fraternal and military practices are studied. Pre requisite: Admission to Funeral Director Program and Reading Proficiency.

FD:104  FUNERAL SERVICE LAW  3  
This course identifies the methods of disposing of human remains and the legal responsibilities of the funeral director. Principles of both mortuary and business law are covered from the local, state and federal level. Cemetery regulations, liability and pre-need are also studied. Pre requisite: Admitted to Funeral Director Program and Reading Proficiency.

FUNERAL SERVICE EDUCATION

FNL:101  ORIENTATION TO FUNERAL SERVICE  2  
An introduction to funeral service; ancient history, historical development, present funeral practices; values of funeral service; personal qualifications; ethics. Field trips to investigate current problem areas in funeral service. Pre requisite: Must have permission of program director and Reading Proficiency.

FNL:102  MORTUARY LAW  3  
Principles of mortuary law; duties, rights and liabilities for final disposition. Business law; public and personal liability; business organization; licensing and zoning regulations. Probate proceedings, social security and life insurance benefits. Pre requisite: Must have permission of program director and Reading Proficiency.

FNL:103  EMBALMING CHEMISTRY  3  
This course is a survey of the basic principles of chemistry as they relate to funeral service. In this course there is a major emphasis on chemical principles and precautions involved in sanitation, disinfection, public health and embalming practice. The government regulations of chemicals currently used in funeral service is reviewed. Pre requisite: MTH:007 or MTH:030 and currently enrolled in Funeral Service Program and Reading Proficiency.

FNL:104  FUNERAL SERVICE EQUIPMENT  3  
Designed to give the student a working knowledge of equipment items, manufacturing and use of such items. Study of caskets and vaults. Field trips and guest lecturers. Pre requisite: Must have permission of program director and Reading Proficiency.
FNL:106  DYNAMICS OF GRIEF  3
This course examines the dynamics of grief and its effect on the
survivors following the death of a loved one. Various theories related
to grief will be examined, as well as public attitudes about death and
the funeral service profession. Specific helping skills utilized by the
funeral director will be studied and practiced. Prerequisite: Reading
Proficiency.

FNL:200  RESTORATIVE ART  4
Study of facial anatomy, color relationships and restorations.
Development of skill in anatomical modeling and cosmetics.
Prerequisite: Sophomore standing in Funeral Service Education and
Reading Proficiency.

FNL:201  EMBALMING  3
Procedures and techniques of embalming, embalming theory and
consideration of special treatments. Prerequisite: Bio:111, FNL:103,
sophomore standing in Funeral Service Education and Reading
Proficiency.

FNL:202  FUNERAL MANAGEMENT  3
Current practice and procedures, funeral direction, psychological and
sociological aspects of funeral service, funeral home operation, pro-
fessional overview and image, professional regulations and effective
personnel management. Prerequisite: Must have permission of pro-
gram director and Reading Proficiency.

FNL:205  FUNERAL SERVICE SEMINAR  1
Advanced management techniques and advanced technical
procedures; research into current problems in funeral service;
group discussion and problem solving. Practical applications and
demonstrations of management counseling and funeral arrangement
reasons. Prerequisite: Sophomore standing in Funeral Service Education
and Reading Proficiency.

FNL:206  EMBALMING PRACTICUM I  2
One laboratory session for one semester in an appropriate situation.
Practical experience in all phases of embalming. Prerequisite:
Previous or concurrent enrollment in FNL:201 and Reading
Proficiency.

FNL:207  EMBALMING PRACTICUM II  2
Students placed in local funeral homes to work under the direct
supervision of licensed embalmer to gain knowledge of procedures
used in embalming human remains for funeral services. Continuation of
Embalmimg Practicum I with special emphasis on funeral directing
and funeral home management. Prerequisite: Previous or concurrent
enrollment in FNL:201 and Reading Proficiency.

FNL:208  PATHOLOGY FOR FUNERAL SERVICE  3
Divisions and importance of pathology, nature and causes of dis-
eases, to include: inflammation, repair and recuperation of tissue,
tumors, diseases of the heart, respiratory and digestive systems are
covered as well as microscopic examination of autopsy and surgical
specimens. Prerequisite: Sophomore standing in FSE or Departmental
approval and Reading Proficiency.

GENERAL ENGINEERING

GE:056  FUNDAMENTALS OF TECHNOLOGY  3
This course relates the fundamentals of technology to down-to-earth,
everyday occurrences, problems, and devices. A unique instructional
approach ties together parallel concepts for mechanical, electrical,
fluid, and thermal systems. Skills used by all technicians are de-veloped
in practical hands-on laboratory experiences. Prerequisite: One
year of high school algebra or MTH:140 or higher.

GE:101  TECHNICAL COMPUTER PROGRAMMING  3
This course is designed for students in technology programs.
Instructions will include an overview of micro-computer hardware
and software, an introduction to Disk Operating Systems and a study
of the BASIC Programming Language and applications software for
Technical Problem Solving. Prerequisite: Reading Proficiency.

GE:131  ENGINEERING TECHNOLOGY ORIENTATION  1
An introduction to the opportunities and responsibilities of an engi-
eering technician. Exposure to the various fields of technology will
be made by field trips, movies and guest lectures. Introduction to
materials, techniques and college services which will assist the stu-
dent in completing a technology program will be presented.
Prerequisite: Reading Proficiency.

GE:132  TECHNOLOGY APPLICATIONS  3
This course is an applications driven investigation of technological
classes and devices. Mechanical, electrical, fluid, and thermal sys-
tems applications are demonstrated and investigated for each topic
area in practical hands-on laboratory exercises. Topics include force
transfomers, energy converters, transducers, optical systems, and
vibrations. Prerequisite: GE: 056 and Reading Proficiency.

GE:181  MODERN TECHNOLOGY  3
This course is concerned with the social and environmental impact of
recent advances in science and technology. Since technological
change is rapid and science literacy is required to understand the
changes, this course is designed for non-technical as well as techni-
cal majors. Various branches of technology, their processes and
implementation are examined. Discussions will follow on the need
for technology, its development, how it serves us and the problems
that are its by-products. This course may not count as a natural sci-
ence lab course for general education requirements. Prerequisite:
Reading Proficiency.

GE:291  CO-OP WORK EXPERIENCE I -
GENERAL ENGINEERING  3
A cooperative education work experience consists of a work assign-
ment with an employer or agency (minimum of 15 hours per week),
which allows students to apply skills learned in the classroom.
Students are also able to learn new skills and to explore career poss-
ibilities while supervised by the employer and by a faculty member.
Prerequisite: Reading Proficiency.

GE:292  CO-OP WORK EXPERIENCE II -
GENERAL ENGINEERING  3
Continuation of GE: 291. Prerequisite: Reading Proficiency.

GE:293  CO-OP WORK EXPERIENCE III -
GENERAL ENGINEERING  3
Continuation of GE: 292. Prerequisite: Reading Proficiency.

GEOGRAPHY

GEG:100  REGIONAL GEOGRAPHY: THE EASTERN WORLD  3
This geography course surveys the continents of Asia, Africa, Australia
and the Pacific World including countries. The survey includes the
physical, cultural, economic, and political roles of these countries with-
in the family of nations. Prerequisite: Reading Proficiency.

GEG:101  REGIONAL GEOGRAPHY: THE WESTERN WORLD  3
This geography course includes a survey of the continents of Europe,
Anglo-America and Latin America, the areas major countries and
their physical, cultural, economic, and political roles within the family
of nations. Prerequisite: Reading Proficiency.

GEG:103  PHYSICAL GEOGRAPHY  3
A study of the physical earth, emphasizing the principles of weather,
climate, natural vegetation soils and landforms. This course may be
used to satisfy a natural science requirement. Prerequisite: Reading
Proficiency.

GEG:106  US AND WORLD GEOGRAPHY  3
This geography course surveys the continents of the Earth, including
the nature of living environments of geographical areas and the geo-
ography of cities, their regional functions, location and cultural land-
scape. The survey includes weather, climate, resources, and land
forms. Prerequisite: Reading Proficiency.
### GEOLOGY

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEG:201</td>
<td>GEOGRAPHIC PROBLEMS I</td>
<td>1</td>
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<tr>
<td></td>
<td>No regular class meeting. Conferences with instructor and special reading assignments. Special studies of countries or areas as desired by the student. Prerequisite: GEG:101 or GEG:103 or GEG:104 and Reading Proficiency.</td>
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<tr>
<td>GEG:100</td>
<td>EARTH SCIENCE</td>
<td>3</td>
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<td></td>
<td>This introductory geoscience course will focus on the geologic events since the origin of the earth, the interior structure of the earth, plate tectonics, earthquakes, volcanoes, rocks, minerals, and surface processes. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GEG:101</td>
<td>EARTH SCIENCE (LABORATORY)</td>
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<td></td>
<td>Laboratory and field exercises illustratig the principles of earth science. Prerequisite: GEG:100 concurrent enrollment and Reading Proficiency.</td>
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<tr>
<td>GEG:102</td>
<td>INTRODUCTION TO GEOLOGY</td>
<td>3</td>
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<td></td>
<td>An introduction to the physical and historical development of life and earth through 3 to 5 billion years of time. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GEG:103</td>
<td>ENVIRONMENTAL GEOLOGY</td>
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<td></td>
<td>Geologic hazards, natural resources and land-use planning will be considered with emphasis on problems caused by man. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GEG:104</td>
<td>PREHISTORIC LIFE</td>
<td>3</td>
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<td></td>
<td>This general paleontology course is a survey of the fossil record of the history of life and its development on earth through four billion years of geologic time. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GEG:105</td>
<td>FIELD TRIPS IN MISSOURI GEOLOGY</td>
<td>3</td>
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<td></td>
<td>An elective science course utilizing the unique geology of the Missouri Ozarks as a field laboratory. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GEG:111</td>
<td>PHYSICAL GEOLOGY</td>
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<td></td>
<td>Introduction to the theoretical and practical aspects of the composition and structure of the earth. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GEG:112</td>
<td>HISTORICAL GEOLOGY</td>
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<td></td>
<td>Historical Geology is a continuation of GEO:111. The course considers the origin of the earth, its geologic history and the history and evolution of animal and plant life as recorded in the rocks. Prerequisite: GEO:111 and Reading Proficiency.</td>
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<tr>
<td>GEG:113</td>
<td>OCEANOGRAPHY</td>
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<td>This is a course covering all areas of oceanographic study. The primary emphasis is physical oceanography, i.e. waves, tides, currents, shoreline ocean basins, ocean sediments, and properties of salt water. A portion of the course (approximately 1/4) covers marine ecology and marine life. A student completing this course should have a much heightened awareness of the water mass that covers over 70% of the earth’s surface. Man’s interactions with this environment are constantly emphasized. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GEG:200</td>
<td>GEOMORPHOLOGY</td>
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<td></td>
<td>Study of the origin and classification of land forms. Regional geomorphic problems and physiographic regions emphasized. Prerequisite: GEO:111 and Reading Proficiency.</td>
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<tr>
<td>GEG:201</td>
<td>GENERAL MINERALOGY</td>
<td>3</td>
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<td></td>
<td>Fundamental principles of crystallography and mineralogy with an introduction to structures and optical properties. Prerequisite: GEO:111 or CHM:101 and Reading Proficiency.</td>
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<tr>
<td>GEG:202</td>
<td>INTRODUCTION TO PETROLOGY</td>
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<td></td>
<td>Thorough study of rock types and standard nomenclature. Prerequisite: GEO:201 and Reading Proficiency.</td>
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### GERMAN

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<tr>
<td>GER:101</td>
<td>ELEMENTARY GERMAN I</td>
<td>4</td>
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<td></td>
<td>A beginning course presenting the basic sentence structure and vocabulary necessary to participate in elementary German conversation and to begin reading short German passages. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>GER:102</td>
<td>ELEMENTARY GERMAN II</td>
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<tr>
<td></td>
<td>A continuation of GER:101. Students complete the basic elements of German grammar, increase their vocabulary and gain added facility in speaking and reading German. Prerequisite: GER:101 or 2 years of high school German and Reading Proficiency.</td>
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</tr>
<tr>
<td>GER:103</td>
<td>BASIC GERMAN CONVERSATION I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Construction and practice in fundamental vocabulary, basic sentence structures and social conversations necessary for simple interpersonal communication in German. Emphasis is on the use of German in everyday situations. Prerequisite: Reading Proficiency.</td>
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</tr>
<tr>
<td>GER:104</td>
<td>BASIC GERMAN CONVERSATION II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A continuation of GER:103. Further practice in speaking the language through the acquisition of new vocabulary and the learning of German sentence structure. Prerequisite: GER:103 and Reading Proficiency.</td>
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<tr>
<td>GER:201</td>
<td>INTERMEDIATE GERMAN I</td>
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<td>A continuation of GER:102. Emphasis is on speaking German. A review of grammar assists the student in perfecting basic skills. A variety of up-to-date literary and cultural selections are read and form the basis for classroom discussions. Prerequisite: GER:102 or 3 or more years of high school German and Reading Proficiency.</td>
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<tr>
<td>GER:202</td>
<td>INTERMEDIATE GERMAN II</td>
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<td>A continuation of GER:201. Emphasis is on spoken German with continued grammar review. A variety of short stories and contemporary cultural selections are read and discussed in class. Prerequisite: GER:201 or 4 or more years of high school German and Reading Proficiency.</td>
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<tr>
<td>GER:203</td>
<td>INTERMEDIATE GERMAN CONVERSATION I</td>
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<td>An intermediate level course which stresses spoken German while both introducing new grammatical forms and reviewing previously learned structures. Prerequisite: GER:104 or GER:102 or two or more years of high school German and Reading Proficiency.</td>
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<tr>
<td>GER:204</td>
<td>INTERMEDIATE GERMAN CONVERSATION II</td>
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<td>An intermediate level German conversation class designed to develop more confidence in oral German by discussion of written materials in German. The use of spoken German in everyday situations will be emphasized. Prerequisite: GER:203 or GER:201 or two or more years of high school German and Reading Proficiency.</td>
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<tr>
<td>GER:206</td>
<td>ADVANCED GERMAN CONVERSATION AND COMPOSITION</td>
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<td>Students with a good command of the spoken and written language have an opportunity to increase their fluency by regularly writing and speaking about various subjects of daily interest. Prerequisite: GER:202 or equivalent and Reading Proficiency.</td>
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### GLOBAL EDUCATION

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GLE:101</td>
<td>GLOBAL EDUCATION STUDIES</td>
<td>1 - 3</td>
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<td>This course will present an opportunity for students to travel to and to engage in the direct study of international cultures in order to foster an enhanced sensitivity to, appreciation of, and an understanding of the global community. Prerequisite: Permission of instructor and Reading Proficiency.</td>
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HEALTH INFORMATION TECHNOLOGY

HIT:101 MEDICAL TERMINOLOGY 4
This course provides a broad survey of the language of medicine and health technologies. Students learn to accurately spell and define common medical terms related to major disease processes, diagnostic procedures, laboratory tests, abbreviations, drugs, and treatment modalities. Emphasis is placed on formation, definition and pronunciation. Prerequisite: Reading Proficiency.

HIT:102 HEALTH INFORMATION MANAGEMENT TECHNOLOGY 4
This course introduces healthcare data content and structure including its collection, arrangement, presentation, and verification. Healthcare data sets, primary and secondary record systems, and legal and ethical issues are introduced. Students learn how information technology supports healthcare delivery and are introduced to information systems concepts and components such as hardware, software, data, and network resources. Prerequisite: Reading Proficiency.

HIT:103 HEALTHCARE DELIVERY SYSTEMS 2
This course describes the organization, financing and delivery of healthcare services in the United States. Students are introduced to the major settings in which healthcare services are provided including public health services, ambulatory care, institutional hospital services, long-term care, and mental health services. Billing and reimbursement procedures for individual providers and institutions are also studied. Prerequisite: Reading Proficiency.

HIT:104 BASIC PRINCIPLES OF DISEASE 2
This course provides an overview of diseases processes affecting the human body via an integrated approach to specific disease entities, including the study of causes, diagnosis and treatment of disease. Typical health record data is interpreted. Prerequisites: BIO:215 and HIT:101 and Reading Proficiency.

HIT:105 PHARMACOLOGY FOR HEALTH INFORMATION TECHNOLOGY PROFESSIONALS 1
This course provides an overview of pharmacy therapy available for clinical management of patient care. Specific disease states and the drugs used to alleviate and treat various conditions are studied. Prerequisites: BIO:215 and HIT:101 and Reading Proficiency.

HIT:106 DIAGNOSIS CODING SYSTEMS I 3
This course is an introduction to the clinical coding and classification systems used to code and report illnesses, injuries, and patient encounters with healthcare practitioners for services. Students learn to read and interpret healthcare documentation to classify diagnoses in the International Classification of Diseases - Ninth Revision - Clinical Modification (ICD-9-CM) system. ICD-10-CM, DSM-IV, and Diagnostic Related Groups (DRG) and their relationship to coding are also introduced. Emphasis is placed on the interrelationship between providing healthcare services to patients and receiving payment for those services. Prerequisites: HIT:101, HIT:102, BIO:215, and Reading Proficiency.

HIT:107 PROCEDURE CODING SYSTEMS I 3
This course is an introduction to the clinical coding and classification systems used to code and report diagnostic and therapeutic procedures in the ambulatory care setting. Students learn to read and interpret ambulatory healthcare documentation to classify services and procedures in the Current Procedural Terminology (CPT) System and the Healthcare Common Procedure Coding System, HCPCS, Level II. ICD-9-CM Volume III and ICD-10-PCS are also introduced. Emphasis is placed on the interrelationship between providing health care services to patients and receiving payment for those services. Prerequisites: HIT:101, HIT:102, BIO:215, and Reading Proficiency.

HIT:109 MEDICAL TRANSCRIPTION 3
This course is designed to develop skill in keyboarding/formatting and in transcribing from machine dictation in a variety of medical documents, such as forms, correspondence, consultation and simple reports. Reinforcement of medical terminology and language skills, use of reference materials, ethics, and confidentiality are emphasized. Additional lab hours required. Prerequisites: HIT:101 and IS:102 and Reading Proficiency.

HIT:201 HEALTH INSURANCE BILLING AND REIMBURSEMENT 3
This course explores the uses of coded data and health information in reimbursement and payment systems. Procedures of various commercial, major nonprofit, and government insurance carriers are studied. Students examine the impact of the Prospective Payment System on reimbursement and the interrelationship of coding, Diagnostic Related Groups, Ambulatory Payment Classifications and healthcare providers. Prerequisites: HIT:103 and HIT:106 and Reading Proficiency.

HIT:206 DIAGNOSIS CODING SYSTEMS II 3
This course is a continuation of Diagnosis Coding Systems I. Students are introduced to additional Diagnosis Related Groups (DRGs) and their relationship to coding. Prerequisites: HIT:106 and Reading Proficiency.

HIT:207 PROCEDURE CODING SYSTEMS II 3
This course is a continuation of Procedure Coding Systems I. Students use computerized encoding systems and healthcare data/content to assign appropriate CPT/HCPCS codes including Level II National Codes developed by the Centers for Medicare and Medicaid Services. Prerequisites: HIT:107 and Reading Proficiency.

HIT:208 ADVANCED CODING APPLICATIONS 2
Students will apply their knowledge of anatomy, the clinical disease process, diagnosis and procedural terminology and pharmacology for correct code assignment and sequencing using various clinical classification systems. Prerequisites: HIT:206 and HIT:207, and Reading Proficiency.

HIT:209 MEDICAL TRANSCRIPTION II 3
This is an intensive course with emphasis on expanding medical terminology related to various specialties and on gaining skill in transcribing medical reports (history and physical examinations, consultations, operative notes, discharge summaries). Professionalism, decision-making, quality/productivity standards, and work priority are stressed. Additional lab hours required. Prerequisites: HIT:109 and Reading Proficiency.

HIT:210 CO-OP WORK EXPERIENCE - HEALTH INFORMATION TECHNOLOGY 2
A cooperative education work experience consisting of a work assignment with an employer or agency (minimum of 120 hours per semester), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisites: Permission of Department Chair and Reading Proficiency.

HISTORY

HST:100 AMERICAN CIVILIZATION 3
A study of American history, institutions and government. Special consideration will be given to the constitutions of the United States and Missouri. Intended primarily for students in career curricula. Credit not allowed for this course if credit is given for HST:101, HST:102, HST:103 or HST:104. Prerequisite: Reading Proficiency.

HST:101 AMERICAN HISTORY I 3
A survey of the cultural, economic, institutional, political, and social forces and events which have shaped the United States through the Civil War. Credit not allowed for this course if credit is given for HST:100. Prerequisite: Reading Proficiency.
HST:102  AMERICAN HISTORY II  3
A survey of the cultural, economic, institutional, political, and social forces and events which have shaped the United States from the Civil War to the present. Credit not allowed for this course if credit is given for HST:100. Pre requisite: Reading Proficiency.

HST:103  AMERICAN HISTORY I, HONORS  3
This course is a survey of American history from the European discovery of the Americas through the American Civil War. It explores the cultural, economic, political and social forces which have shaped the nation during that period. As an honors course it emphasizes small-group interaction in a seminar setting. Credit not allowed for this course if credit is given for HST:100. Pre requisite: Department Approval and Reading Proficiency.

HST:104  AMERICAN HISTORY II, HONORS  3
This course is a survey of American history from the Civil War through the present. It explores the cultural, economic, political and social forces which have shaped the nation during that period. As an honors course it emphasizes small-group interaction in a seminar setting. Credit not allowed for this course if credit is given for HST:100. Pre requisite: Department Approval and Reading Proficiency.

HST:105  U.S. IN THE TWENTIETH CENTURY  3
An investigation of the social, economic, political and intellectual forces which have shaped contemporary American life and institutions. This course will focus on changes within America during the period 1898 to the present and will consider the effects of those changes on the United States and its relations with the rest of the world. Pre requisite: Reading Proficiency.

HST:107  HISTORY OF BLACK AMERICA  3
This course covers the role of Black people in the development of American history from early American origins to the present. The basic aim is to promote a better understanding of America's past by developing increased awareness of the history of African Americans, their problems and their accomplishments both individually and as a group. Pre requisite: Reading Proficiency.

HST:108  U.S. MILITARY HISTORY  3
Surveys the military history of the United States from the Revolutionary War through the post-Vietnam era. Some general background from European history is included by way of introduction to the art and science of warfare. Topics also included are military technology, tactics and strategies, civilian-military relationships in peace and war, as well as detailed study of representative battles in American history. (The course is designed to meet the military history requirement of ROTC students, but is open to all students without prerequisite. It does not meet the history survey requirement satisfied by HST:100, American Civilization, and should not be regarded as a substitute). Pre requisite: Reading Proficiency.

HST:115  ANCIENT AND MEDIEVAL HERITAGE  3
Ancient and Medieval Heritage is a survey of the Western World from Antiquity through the Renaissance, with concentrations on Egypt, Mesopotamia, Hebrews, the classical civilizations of Greece and Rome, Christianity and Medieval Europe and Islam. Attention is given to political developments, cultural achievements and literary sources and philosophical impact of each area as it applies to todays world. Pre requisite: Reading Proficiency.

HST:117  EARLY MODERN EUROPE  3
Early Modern Europe is a survey introducing the history of Western Civilization from the later Middle Ages through the French Revolution. Attention is given to the cultural, economic, intellectual, political, religious, and social forces which shape the Western World and its spheres of influence. Pre requisite: Reading Proficiency.

HST:119  THE MODERN WORLD  3
An examination of the major cultural, technological and ideological changes which have helped to mold the complex, scientific, urban and materialistic world in which we live. Pre requisite: Reading Proficiency.

HST:128  WESTERN TRADITION II  3
This course will weave together the history, art, philosophy, literature, religion, geography, society, government and economics that evolved into European history from the Reformation: 1500 to the present. Pre requisite: Reading Proficiency.

HST:130  AFRICAN HISTORY I  3
This course will deal with the history of black Africans from the time of ancient Egypt to contemporary Africa. It will be concerned with the chronological progression of African civilization, covering individuals, events and the ideas of the various periods. Pre requisite: Reading Proficiency.

HST:131  AFRICAN HISTORY II  3
This course will encompass the interaction of Africa with the West and will evaluate the influence of black society on western society. Pre requisite: Reading Proficiency.

HST:137  AFRICAN AMERICAN HISTORY I  3
A survey of African American history from its African background through the Civil War and Reconstruction. The course will investigate African-American leaders, socio-cultural institutions, as well as the Black community's relationship with the larger community. Pre requisite: Reading Proficiency.

HST:138  AFRICAN AMERICAN HISTORY II  3
A survey of African American history from the era of Jim Crow to the present. The course will investigate African-American leaders, socio-cultural institutions, as well as the Black community's relationship with the larger community. Pre requisite: Reading Proficiency.

HST:201  HISTORY OF THE FAR EAST  3
A survey of East Asian civilizations focusing on institutional continuity and change, problems of indigenous response and adaptation to western influence, and contemporary problems. Pre requisite: Reading Proficiency.

HST:203  THE AMERICAN WEST  3
The focus of this course is on the frontier as a factor in the development of American institutions and culture. Attention is given to such topics as exploration, the westward movement from the earliest settlements to the passing of the frontier, the plight of the Indians, and Frederick Jackson Turner and his critics. Pre requisite: Reading Proficiency.

HST:204  THE U.S. IN CRISIS AND CIVIL WAR  3
An in-depth study of the events and development in U.S. History between 1820 and 1865. The course will highlight the sectional differences and developments which led to the outbreak of the Civil War and the 1862-1865 war itself with all its national and international implications. Pre requisite: Reading Proficiency.

HST:205  HISTORY OF MODERN MIDDLE EAST  3
This course traces modern political, economic, and cultural developments in the Middle East. Special emphasis is placed on development and trends of contemporary importance. Pre requisite: Reading Proficiency.

HST:206  WOMEN IN THE TWENTIETH CENTURY  3
This U.S. History course studies the Twentieth century experience of American women, who have often been neglected in traditional political and diplomatic histories. Women's contributions to public life will be examined, as will the contributions and experiences of women who remained exclusively within the family. Women's struggle for the vote and for political, legal and economic rights will be considered, along with changing values, Freudian psychology, domestic
architecture and other influences on women's lives. The course will deal with such topics as immigration, labor, economic change, and education. While the course will begin with a textbook in women's history, students will be encouraged to choose their own topics for original research. Prerequisite: Reading Proficiency.

HST:207 AMERICA IN VIETNAM
A survey of the Vietnam War (1945-1975) with emphasis on U.S. involvement in the 1960's. This course will combine military history with social and political history of the period. Vietnam will be seen as a case study in U.S. foreign policy. Prerequisite: Reading Proficiency.

HORTICULTURE

HRT:101 INTRODUCTORYHORTICULTURE
Beginning horticulture students will be introduced to the biological aspects of plant life, including cell structure, anatomy, morphology, physiology and taxonomy, and to the environmental factors which affect plant growth, including light, temperature, moisture, soils and the essential elements. (Same course as BIO:124.) Prerequisite: Reading Proficiency.

HRT:102 SOILS
This course is designed to give the student an understanding of soil formation, the chemical and physical properties of natural soils and soil management. Topics include soil use as it relates to plant growth and nutrition, fertility, drainage, and soil sampling and testing. Prerequisite: HRT:101 or BIO:124 and Reading Proficiency.

HRT:103 PLANT PROPAGATION
This course is designed to give students an understanding of the various methods of plant propagation. Propagation by seed as well as vegetative propagation including cutting, grafting, layering, propagation of specialized structures and tissue culture will be presented. Prerequisite: HRT:101 or BIO:124 and Reading Proficiency.

HRT:104 LANDSCAPE DESIGN I
This course is an introduction to the basic principles of landscape design. It will emphasize learning computer aided design (CAD) programs that will be utilized professionally. Traditional drafting skills will also be developed to enhance plan presentation to clients. Prerequisite: HRT:101 or BIO:124 and Reading Proficiency.

HRT:105 COOPERATIVE HORTICULTURE I
Field work in commercial or institutional horticulture enterprises provide the student with experience in different areas of horticulture and enables him/her to acquire actual work skills. Students are required to obtain their own job (either paid or volunteer) with the aid of the horticulture staff. Prerequisites: HRT:101 or BIO:124 and approval of Horticulture Department and Reading Proficiency. Weekly contact hours by arrangement.

HRT:110 FUNDAMENTALS OF HORTICULTURE
Students will learn the practical applications of the science of horticulture. Ornamental plant culture will be considered in relation to environmental factors such as light, temperature, moisture and soil conditions. Prerequisite: Reading Proficiency.

HRT:111 SELECTED TOPICS IN GARDENING
Students enroll in classes on special topics in horticulture through the adult education program at Missouri Botanical Garden. Classes must be approved by the Horticulture Program Coordinator. A total of 16 hours of instruction is required. Tuition rebates may apply. Prerequisites: HRT:110 and approval of Program Coordinator and Reading Proficiency.

HRT:112 PLANT IDENTIFICATION: ANNUALS AND PERENNIALS
Students will learn the identification, culture and uses of annuals and herbaceous perennials in the landscape. Emphasis will be on plants that perform well in the Midwest and on the study of native species. Prerequisites: HRT:110 and Reading Proficiency.

HRT:125 PLANT IDENTIFICATION: TREES
This course will study deciduous and evergreen landscape trees. Identification through study of botanical characteristics will be emphasized. Landscape uses and plant culture will also be covered. Prerequisite: HRT:110 and Reading Proficiency.

HRT:126 PLANT IDENTIFICATION: SHRUBS AND VINES
This course will study ornamental deciduous and evergreen shrubs and vines. Plant identification through study of botanical characteristics will be emphasized. Landscape uses and plant culture will also be covered. Prerequisite: HRT:110 and Reading Proficiency.

HRT:127 SOIL MANAGEMENT
Soil as a growth medium for plants will be discussed. Special emphasis will be given to soil chemistry, water and physics. Aspects of soil testing and fertility management will also be presented. Prerequisite: HRT:110 and Reading Proficiency.

HRT:128 TURFGRASS CULTURE
Turfgrass culture and management will be discussed. Specific practices as they relate to residential and commercial lawn care will be emphasized. Prerequisite: HRT:110 and Reading Proficiency.

HRT:130 PRINCIPLES OF LANDSCAPE DESIGN
Basic principles of landscape design will be presented. Application of these principles will be demonstrated through the study of landscape plans. Prerequisite: HRT:110 and Reading Proficiency.

HRT:132 PLANT PEST IDENTIFICATION AND MANAGEMENT
Various aspects of insect and disease management will be discussed as they pertain to ornamental plants. Special consideration will be given to identification and control of specific plant pests. Prerequisite: HRT:110 and Reading Proficiency.

HRT:133 LANDSCAPE MANAGEMENT
This course will address management practices for residential and commercial landscapes. Establishment and care of landscape plants will be covered and my include turf grass, trees, shrubs and herbaceous plants. Fertilization and irrigation practices will be discussed. Prerequisite: HRT:110 and Reading Proficiency.

HRT:201 TURFGRASS MANAGEMENT
This course will cover general and special-purpose turfgrasses. Turfgrass use, establishment and management will be emphasized. The laboratory is designed to give the student basic skills in turfgrass identification, pest diagnosis and cultural management. Prerequisite: HRT:101 or BIO:124 and Reading Proficiency.

HRT:205 NURSERY AND GARDEN CENTER PRACTICES
This course is an overview of the nursery and garden center industries. Discussion of nursery operations will include practices from propagation through growing to final product production and distribution. Garden center topics will include merchandising, garden center layout, product trends and specialty items. Prerequisite: HRT:101 or BIO:124 and Reading Proficiency.

HRT:206 ORNAMENTAL PLANTS - TREES AND VINES
This course is a study of ornamental landscape plants with an emphasis on woody vines and deciduous trees. Botanical characteristics of plants will be emphasized for identification purposes. Landscape use and plant culture will also be discussed. Prerequisite: HRT:101 or BIO:124 and Reading Proficiency.

HRT:207 ORNAMENTAL PLANTS - SHRUBS AND EVERGREENS
This course is a study of ornamental landscape plants with an emphasis on deciduous shrubs and evergreen shrubs and trees. Botanical characteristics of plants will be emphasized for identification purposes. Landscape use and plant culture will also be discussed. Prerequisite: HRT:101 or BIO:124 and Reading Proficiency.
HRT 214 GROUNDS MANAGEMENT 3
This course is designed to provide students the skills necessary to manage and maintain the varied aspects of landscapes in residential and commercial settings. Specific topics will include planting techniques, soil preparation, pruning, fertilizing, water and irrigation management, and other related subjects. Prerequisite: HRT 101 or BIO 124 and Reading Proficiency.

HRT 217 LANDSCAPE DESIGN II 3
This course is a continuation of HRT 104. Emphasis will be on applying the principles of art and design in developing landscape plans. Plant selection and use will be emphasized. CAD training will continue. Landscape construction plan details will be introduced. Prerequisite: HRT 104 and Reading Proficiency.

HRT 218 LANDSCAPE DESIGN III 3
This course is a continuation of Landscape Design II with emphasis on the application of the principles of art and design in developing landscape plans. This class will detail conceptual and planting design and emphasize construction plans. CAD training will continue. Prerequisite: HRT 217 and Reading Proficiency.

HRT 220 LANDSCAPE IRRIGATION 3
This course will provide an overview of the components, management, design and use of irrigation systems used in various landscape situations. Specific applications for turf and garden irrigation will be addressed. Prerequisite: HRT 101 or BIO 124 and Reading Proficiency.

HRT 227 PLANT PEST MANAGEMENT 4
This course is a study of the insect and disease pests that affect ornamental plants. Emphasis is on pest identification and treatment through a knowledge of signs, symptoms and pest life cycles. Preparation for the Missouri Pesticide Applicator License is also included. Prerequisite: HRT 101 or BIO 124 and Reading Proficiency.

HRT 230 ORNAMENTAL PLANTS: HERBACEOUS PERENNIALS 3
Students will study the uses of perennials in the landscape and the role of perennials in commercial and residential garden design. Plant identification including specific characteristics such as growth habit, foliage and flowers will be emphasized. Gardening and cultural practice will be discussed. Prerequisites: HRT 101 or BIO 124 and Reading Proficiency.

HRT 235 ANNUALS AND ORNAMENTAL GRASSES 3
Students will be introduced to the identification of annual landscape plants and their use in private, public and commercial gardens. Ornamental grasses, their identification, use and culture will also be covered. Prerequisite: HRT 101 or BIO 124 and Reading Proficiency.

HRT 240 GOLF COURSE MANAGEMENT 3
This course will cover the varied aspects of management of private and public golf courses. Course content will include primary cultural practices of putting greens, tees, fairways, roughs and bunkers as well as address routine course maintenance and operations. Topics in specialized golf course equipment will be presented. Prerequisite: HRT 201 and Reading Proficiency.

HRT 241 GREENHOUSE MANAGEMENT 3
Students will learn techniques for producing a variety of ornamental crops. Greenhouse structures, and greenhouse environmental factors and their effect on plant growth will also be studied. Wholesale production and retail marketing will be presented. Special attention will be paid to the St Louis and Midwest markets. Prerequisite: HRT 101 or BIO 124 and Reading Proficiency.

HRT 242 URBAN TREE MANAGEMENT 3
This course will introduce students to the management of urban forest greenspaces emphasizing the social value of urban trees, street and park tree inventories, tree ordinances and program administration. Tree selection, site evaluation, soil, planting, pruning and hazard tree evaluation will be included. Prerequisite: HRT 101 or BIO 124, and HRT 206 and Reading Proficiency.

HRT 245 SPECIAL APPLICATIONS IN LANDSCAPE DESIGN 3
Students will learn to design specialty gardens such as woody and herbaceous borders, small urban spaces, special access gardens, woodland gardens and public display gardens. Designs may be developed using CAD or traditional drafting methods. Course content will include construction techniques. Prerequisites: HRT 206 and HRT 207 and HRT 230 and Reading Proficiency.

HOSPITALITY, RESTAURANT MANAGEMENT

HRM 112 PURCHASING 3
Purchasing duties. Inventory, receiving, and issuing of foods; food specifications; food grading; comparative buying; convenience foods. Pre requisite: Reading Proficiency.

HRM 116 SAFETY AND SANITATION 1
Lectures on the cause of food borne illness, and actions to prevent illness by proper food protection and personal hygiene of employees. Review of laws for consumer protection and standards for employee working conditions. Methodology of dishwashing systems for best sanitation and utilization of materials and personnel. Survey of most common accidents in the hotel industry and procedures for prevention of accidents through the development of a safety program.

HRM 119 GARDE MANGER 2
Instruction in Garde Manger work including sandwiches, vegetable carving, canapes, hors d’oeuvres, aspic, chaud froid, ice carving and buffet presentation by lab instructor. Prerequisite: HRM 110 and Reading Proficiency.

HRM 122 BAKING 3
This course is an introduction to baking including breads, cookies, and danish. The student will learn the principles and procedures of baking theory, practice of high quality baked bakery items. Prerequisite: HRM 110 and Reading Proficiency.

HRM 123 PAstry 3
This course is an introduction to pastry with fundamentals in icings, creams, cakes, sugars, and decorating. The course will offer theory and practice of step-by-step procedures of makeup, assembly and production of quality bakery products. Prerequisite: HRM 122 and Reading Proficiency.

HRM 128 NUTRITION 3
The study of food and its effect on the body. This course will provide the student with practical guidelines for preparing nutritious meals in a foodservice establishment. Prerequisite: Reading Proficiency.

HRM 129 GLOBAL CUISINE 2
This course explores various international cuisines. The student will gain not on the hands-on-training, but the history and development of foods in those regions. Also, the impact on American cuisine such as fusion cooking will be examined. Prerequisites: HRM 119, HRM 122, HRM 145, and Reading Proficiency.

HRM 132 CULINARY ARTS PRACTICUM III: CATERING 3
A combination practicum and seminar course. Students gain practical field experience under supervised conditions and relate, in seminar, their classroom knowledge of catering to these experiences. Student is required to complete 150 hours of supervised work experience in the culinary arts industry. Prerequisite: Reading Proficiency.

HRM 134 INTRODUCTION TO THE HOSPITALITY INDUSTRY 3
A survey course of the hospitality industry. Lectures from outstanding foodservice and hotel operators will help to give the student an overview of opportunities available to them upon graduation. Other aspects covered include the following: history of the industry, current and future trends. Prerequisite: Reading Proficiency or concurrent enrollment in RDG 030 or ENV 070.
HRM:135  FOOD PREPARATION THEORY  3
The student will gain familiarization with tools, equipment, kitchen organization, recipe conversions, and professionalism. The student will receive theory in the preparations of stocks, soups, sauces, classical vegetable cuts, and basic cooking principles for meat, poultry, seafood, sandwiches, hors d’oeuvres, Garde Manger, beverages and an introduction to baking principles. Corequisites: HRM:116 and HRM:134. Prerequisites: ENG:101 and MTH:108, Reading Proficiency or concurrent enrollment in RDG:030, or ENG:070.

HRM:140  FOOD PREPARATION PRACTICAL I  3
The student will master competencies for tools and equipment, kitchen organization, converting and following recipes, applying safety and sanitation, vegetable cuts (American Culinary Federation competition cuts), basic, soups, sauces, basic cooking methods and an introduction to meat and poultry preparation. Corequisites: HRM:135 and HRM:116 and Reading Proficiency.

HRM:141  WORKPLACE LEARNING I  1
This experiential course provides the student opportunity to apply theory and skills learned in the classroom while supervised by both a professional in the field and a faculty member. Student is required to complete 50 hours of supervised work experience in a position related to their academic or career goal. Prerequisite: Must be currently enrolled in at least one class which is related to student’s major or career interest or with permission of instructor. HRM:134 and completion of at least twelve (12) college credits, minimum 2.6 GPA, and must be able to obtain a position related to student’s academic or career goals (student’s present job may qualify); or permission of instructor and Reading Proficiency.

HRM:145  FOOD PREPARATION PRACTICAL II  3
The student will master competencies in the basic cooking principles for meat, poultry, seafood, sandwiches, hors d’oeuvres, Garde Manger, beverages, and intermediate baking techniques. Prerequisites: HRM:140 and Reading Proficiency.

HRM:201  PROBLEMS OF HOSPITALITY MANAGEMENT  3
A survey of the personnel and general management concerns of those at the mid-management level of the hospitality industry. Students will learn to make judgments and decisions through the use of management theories. Basic fundamentals and principles of management will be readily and easily applied to the hotel, restaurant and institutional field. Prerequisite: Reading Proficiency.

HRM:202  HOSPITALITY LAW  3
A course structured to meet the student’s needs concerning hospitality law, current state and federal employment and wage status, and tax provisions of all levels of government; credit philosophy and procedures; a survey of insurance needs and selection of most advantageous coverage; fundamentals of union organization, including contracts and bargaining; as well as general principles of business organization and organizational structure. Prerequisite: Reading Proficiency.

HRM:205  OPERATIONAL COST CONTROL  3
Methods of audit against established operational standard costs are developed and use of these methods to determine daily operational levels and break-even points are taught. Food, bar and labor cost control are included. Prerequisite: Reading Proficiency.

HRM:209  HOSPITALITY SALES AND MARKETING  3
This course will be structured into three sections: Salesmanship, Advertising, and Marketing. All aspects of the course will specifically focus on the Hospitality and Tourism career fields. Salesmanship section will develop specific steps of the selling process from prospecting to closing. Effective and efficient marketing strategies and marketing activities are emphasized as well as the illustration of what advertising is and how advertising is used to achieve market penetration. A survey of the advertising process, advertising, agencies, media, and consumer is shown. Prerequisite: Reading Proficiency.

HRM:210  GUEST SERVICES MANAGEMENT  3
This course examines the organization and management of the hotel front office and guest service operations. It explores key front office functions and related systems and skills necessary to ensure guest satisfaction and efficient operations. Prerequisite: HRM:134 and Reading Proficiency.

HRM:211  HOTEL FACILITIES MANAGEMENT  3
This course covers the fundamental duties and responsibilities of hotel facilities management. Topics include personnel, cleaning, purchasing, equipment, textiles, maintenance, safety, and basic systems for hotel facility management record keeping. Prerequisite: HRM:134 and Reading Proficiency.

HRM:212  BAR AND BEVERAGE MANAGEMENT  3
This is an introductory course in how to set up, operate, and manage a bar. Students will learn about wines, spirits, and beers. Additional material covers layout and design, equipment, marketing, and staffing. Prerequisite: Reading Proficiency.

HRM:214  HOSPITALITY HUMAN RESOURCES MANAGEMENT  3
This course examines concepts and applications of human resource management in the hospitality industry. Topics include recruitment, selection, training and evaluation. Emphasis will be placed on current management methods and productivity in the service environment. Prerequisite: HRM:134 and Reading Proficiency.

HRM:215  CHOCOLATES AND CONFECTIONERY ART  3
This course introduces you to the principles involved in tempering chocolate, creating chocolate sculptures, forming simple centerpieces, and preparing chocolates and other confections with soft, hard, and liquid centers. You’ll learn to use both traditional and contemporary production methods in creating confections by hand. Prerequisite: HRM:123 and Reading Proficiency. 1/2 lecture, 3 lab hours weekly.

HRM:216  CONFECTIONERY ART  3
This course will introduce you to classically applied mediums used in display work and decoration. You’ll learn to execute specific designs in pastillage, rolled fondant, gum paste, royal icing, as well as with poured, pulled, and brown sugar. Prerequisite: HRM:215 and Reading Proficiency.

HRM:217  NUTRITIONAL BAKING AND PASTRY  3
This course will introduce you to how to bake for health-conscious patrons as well as those with restricted diets. You’ll conduct nutritional analysis of breads and cakes as well as the study of vegan, diabetic, wheat-free, and other diets. You will learn to interpret nutritional labels as well as to prepare and present a wide range of products for someone with special dietary needs. Prerequisites: HRM:123 and HRM:128 and Reading Proficiency.

HRM:218  SPECIALTY BREADS AND ROLLS  3
This course will build on your previous knowledge. You will learn to mix, shape, bake, store and distribute breads and rolls. Emphasis will be placed on increased use of traditional fermentation methods, equipment, and methods that emphasize flavor, texture, and appearance as well as techniques that increase shelf life. Prerequisite: HRM:123 and Reading Proficiency.

HRM:219  SPECIALTY CAKES  3
This course will cover the origin of classical cakes, variations from classical method, and customer-driven deviations from traditional preparations. You’ll work with glazed, iced, molded, and cream-filled cakes as well as tarts, petits, bombe, and flans of various types. Prerequisite: HRM:123 and Reading Proficiency.

HRM:220  DECORATED AND WEDDING CAKES  3
This course explores the ingredients, styling, and preparation of occasion cakes, seasonal cakes, and both modern and classically decorated wedding cakes. You will learn about pieces montees, flush stack, and separated styles of wedding cakes, including three-dimensional
HUMAN SERVICES

HMS:100  INTRODUCTION TO HUMAN SERVICES  3
A survey course to introduce students to human and community needs and to the concepts of the helping profession. Students examine community resources, the relationship of agencies and bureaucracies to the total community, and the worker's role and responsibility in the helping profession. Prerequisite: Reading Proficiency.

HMS:101  HUMAN SERVICES: THEORIES AND SKILLS  3
An overview of methodology used in the helping profession. Course will include an analysis of helping relationships, a study of interpersonal skills and practice techniques. A process-oriented approach to solving individual, family and community problems will be stressed. Prerequisite: Reading Proficiency.

HMS:102  HUMAN SERVICES: POLICY AND POLITICS  3
An analysis of the political process involved in the formulation of social welfare policies from a historical point of view. Federal state and local programs will be examined in terms of skills and knowledge to affect program planning and delivery. Prerequisite: Reading Proficiency.

HMS:103  INTRODUCTION TO YOUTH SERVICES MANAGEMENT  3
Course designed to meet the needs and issues of potentially and presently employed residential treatment workers. Will address philosophy of residential services, observation and recording skills, problem-solving, group skills and team approach. Prerequisite: Reading Proficiency.

HMS:110  INTRODUCTION TO GERONTOLOGY  3
This course will explore the complex forces that shape an older person's experiences and circumstances. It will help students to assess the impact of economics, social forces, cultural value systems, and social institutions on the needs and characteristics of the elderly. Prerequisite: Reading Proficiency.

HMS:111  GROUP PRACTICE IN HUMAN SERVICES  3
This course will focus on the basic issues of group work in Human Services settings. The theory behind group work practice, a study of the various types of groups, ethical issues, group leadership and the process of forming and working with groups will be covered. Prerequisite: HMS:100 recommended and Reading Proficiency.

HMS:112  INTERVIEWING IN THE HELPING RELATIONSHIP  3
Provides students with an integrated approach to basic helping skills, utilizing theories, practice and case application. An introduction to interviewing skills for use in both professional and paraprofessional settings. Prerequisite: Reading Proficiency.

HMS:118  AGING AND DISABILITIES  3
This course will focus on the aging process and the manifestations of aging in persons with congenital or acquired disabilities. Current habitation, rehabilitation programs and recent technologies will be explored. Discussions will also center on aging care providers and their concerns and needs. Prerequisite: Reading Proficiency.

HMS:119  INTRODUCTION TO THE FIELD OF DISABILITIES  3
A course designed to provide an overview of issues in the field of disabilities. Discussions focus on the service delivery system and ways in which current legislation, inclusionary models, and other trends impact the lives of persons with disabilities and their care givers. Resources and careers in disabilities will be explored. Prerequisite: Reading Proficiency.

HMS:120  TEAM BUILDING: WORKING WITH CARE GIVERS  3
Focus is on communication, cooperation, and collaboration with care givers of persons with disabilities. Presented will be choices, decision-making, support systems, which aid persons with disabilities and their care givers with full inclusion into society. Prerequisite: Reading Proficiency.
HMS:121 WORKING WITH CHALLENGING BEHAVIORS 3
This course provides students with the learning and application of intervention skills to assist individuals with disabilities to achieve their full potential. Focus is on providing support in community settings to persons with disabilities whose behaviors pose challenges. Prerequisite: Reading Proficiency.

HMS:122 HEALTH ISSUES AND PERSONS WITH DISABILITIES 3
Introduction to the basic principles of the health, etiology, and prognosis of specific disabilities. First aid, CPR, medicine administration and other emergency concerns will be explored. Experiences focusing on personal care assistance, positioning, transferring, feeding, etc. for disabled will be learned. Prerequisite: Reading Proficiency.

HMS:123 INCLUSION IN THE COMMUNITY 3
Designed to help care givers and/or paraprofessionals prepare individuals with disabilities for maximum empowerment and self-advocacy in their respective communities. Introduction to and discussion of alternative living situations and supports needed for inclusion. Staff career competencies explored. Prerequisite: Reading Proficiency.

HMS:201 HUMAN SERVICES PRACTICUM I 3
A field work experience in a social, educational, law enforcement (corrections) or other community service organizations. The student will be supervised by a practicum site professional and by a college faculty member. Ten or more hours of work experience each week. Concurrent enrollment in HMS:203 required. Prerequisites: HMS:100 and HMS:101 with grades of “C” or better and Reading Proficiency.

HMS:202 HUMAN SERVICES PRACTICUM II 3
Continuation of HMS:201. Depending on the student and his or her objectives, Human Services Practicum II may be in the same organization or in a different one. Ten or more hours of work experience each week. Concurrent enrollment in HMS:204. Prerequisites: HMS:201 and HMS:203 with grades of “C” or better and Reading Proficiency.

HMS:203 HUMAN SERVICES PRACTICUM SEMINAR I 3
Discussion and analysis in small groups of the human services practicum experience. There will be special learning objectives related to the kind of work the student will do in an organization after completion of the program. Concurrent enrollment in HMS:201 required. Prerequisites: HMS:100 and HMS:101 with grades of “C” or better and Reading Proficiency.

HMS:204 HUMAN SERVICES PRACTICUM SEMINAR II 3
Continuation of HMS:203 with different learning objectives. These objectives will be related to the work the student will do after completion of the program. Current enrollment in HMS:202 is required. Prerequisites: HMS:201 and HMS:203 with grades of “C” or better and Reading Proficiency.

HMS:205 CRISIS INTER/VENTION 3
Course designed as a beginning training unit for people who anticipate or are presently working with individuals in crisis situations such as suicide, rape, spouse abuse, death and drugs. Will focus on theory and practical application of crisis intervention techniques. Prerequisite: Reading Proficiency.

HMS:291 CO-OP WORK EXPERIENCE I: HUMAN SERVICES 3
A cooperative education work experience consists of a work assignment with an employer or agency (minimum of 15 hours per week), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisite: Reading Proficiency.

HMS:292 CO-OP WORK EXPERIENCE II: HUMAN SERVICES 3
Continuation of HMS:291. Prerequisite: Reading Proficiency.

HMS:293 CO-OP WORK EXPERIENCE III: HUMAN SERVICES 3
Continuation of HMS:292. Prerequisite: Reading Proficiency.

HUMANITIES

HUM:101 HUMANITIES I 4
This course explores the development of Western culture from its beginnings to the early modern period. Its focus is on the basic attitudes, feelings and ideas expressed in art music, literature philosophy, and religion. A major objective of the course is to help students develop the ability to understand and enjoy diverse cultural styles. Prerequisite: Reading Proficiency.

HUM:102 HUMANITIES II 4
This course focuses on understanding the human meaning of the many different cultural styles in our modern Western world. The course will trace the development of classical and popular music, art, literature, and philosophy, and the growing impact of science on our beliefs and attitudes. The arts and ideas of the last 100 years will receive special attention, and recent developments such as rock music and jazz will be explored. Prerequisite: Reading Proficiency.

HUM:106 BLACK HUMANITIES 3
A study of neo African and Afro-American philosophies as expressed nationally and internationally in literature, art and song. Prerequisite: Reading Proficiency.

HUM:109 ARTS AND IDEAS IN THE ANCIENT WORLD 3
This interdisciplinary humanities course will use the arts and literature to trace the development of belief systems from the earliest expressions found in prehistoric remains through the rise of the great civilizations of Egypt, Greece and Rome. Prerequisite: Reading Proficiency.

HUM:110 THE MIDDLE AGES AND THE RENAISSANCE 3
This interdisciplinary humanities course will explore the arts and ideas that infused and created the cultural periods known as the Middle Ages and the Renaissance in Western Europe. Prerequisite: Reading Proficiency.

HUM:112 CREATIVE THINKING 3
This interdisciplinary course helps students develop their capacities to observe clearly, to generate ideas and alternatives, to overcome blocks to recognize and solve problems, and to assess results. The skills taught apply to all arts and sciences, to business, and to personal interests. Prerequisite: Reading Proficiency.

HUM:113 INTRODUCTION TO IRISH STUDIES 3
Introduction to Irish Studies is an interdisciplinary survey of Irish history and culture from prehistoric times to the present, with special emphasis on the role of the arts in the struggle for independence and the outstanding achievements of Irish writers and poets. Prerequisite: Reading Proficiency.

HUM:114 EXPLORING THE ARTS 3
This course concentrates on appreciating, understanding, and interpreting the creative and performing arts: painting, sculpture, music, dance, theatre and film. The focus is on the arts in contemporary life, though some historical background is included. Prerequisite: Reading Proficiency.

HUM:115 LIFE AND DEATH DURING THE NAZI ERA 3
An interdisciplinary approach to the study of life in Nazi Germany. Literary, psychological and historical texts on such topics as education, racial prejudice and propaganda are read and interpreted in class. Supplementary slides and documentary films are used. Prerequisite: Reading Proficiency.
HUM:201 PSYCHOLOGY THROUGH LITERATURE 3
The primary goal of the course is the study of psychology through literature, studying a few primary psychological sources and a wide range of literature that has demonstrated a great depth of understanding of the human condition. Prerequisite: PSY:200 and Reading Proficiency.

HUM:204 FREUD, JUNG AND THE WORLD OF FICTION 3
The purpose of this course is to examine selected works of prose fiction as products of the literary imagination and as psychological case studies. Special attention will be paid to the contributions of Freud and Jung to depth psychology insofar as their theories can be applied to the short story and the novel. Prerequisite: Reading Proficiency.

HUM:205 UTOPIAN SOCIETIES AND IDEALS 3
This interdisciplinary course examines three kinds of utopian societies: utopias of nature, utopias which exalt technology, and utopias which take an ambiguous position between these extremes. Throughout the course we discuss such utopian ideals as human freedom versus control of human behavior, living close to a natural world versus living in a highly organized technology and the advantages of centralization versus decentralizing. Strenuous efforts are made to see interrelationships between ideas of a political scientist, psychologist and a philosopher as applied to utopias. Each student will write his/her own utopia as a final project. Prerequisite: Reading Proficiency.

HUM:207 MISSOURI FOLKLORE 3
Students will learn the value and role of traditions in defining culture. Traditions describe a community's standards for organizing daily life, fulfilling social roles, making and doing things, celebrating, and even talking. We draw examples from students' families as well as from local and regional cultures. To facilitate this Missouri focus, we research a different theme each year. In researching and writing collaboratively, students learn fieldwork basics and produce an article intended for publication. Prerequisite: Reading Proficiency.

HUM:208 LIBERAL ARTS SEMINAR: THEMES IN THE LIBERAL ARTS 3
The seminar will draw together the main themes of a liberal arts education: the consideration of the impact of science, technology and the humanities on societies over time, values and ethics appropriate to a new age, the future consequences of present policies, the enjoyment and importance of both the arts and the sciences. The theme may change semester by semester. Prerequisite: 32 hours or consent of Liberal Arts Coordinator/Instructor and Reading Proficiency.

HUM:209 BLACKS AND THE WORLD OF CINEMA 3
This course examines the historical and social evolution of blacks in the film industry. It traces the impact of Afro-Americans as actors, technicians, directors, producers, and audience of short and feature length films. Prerequisite: ENG:101 and Reading Proficiency.

HUM:210 VIETNAM: FACT, FICTION, FILM 3
An interdisciplinary investigation of America's longest and most divisive foreign war as it has been portrayed in video and print media. Course materials include personal accounts, historical and cultural studies, poems, short fiction, documentaries, and feature-length films. Prerequisite: Reading Proficiency.

HUM:220 HONORS COLLOQUIUM 3
This interdisciplinary team-taught course is designed as a capstone experience for students in their last semester of honors study. The course topic, which changes periodically, will be examined from various perspectives using the theories and methodologies of both the humanities and the sciences. Students will develop a research project related to their major, program, or field of interest. Prerequisite: ENG:105 or ENG:102 and Reading Proficiency.

INDUSTRIAL ENGINEERING

IE:131 JOB DESIGN AND WORK MEASUREMENT I 4
This course covers work simplification and stopwatch time study, including product analysis, process analysis, flowcharting, man-machine relationships and motion study. Time study covers the observation and data recording process, rating allowances and job standard times. Prerequisite: Reading Proficiency.

IE:133 PRODUCTION CONTROL 3
This course covers production flowcharting, inventory, functions and shop floorcontrol methods. Prerequisite: Reading Proficiency.

IE:135 INSPECTION AND QUALITY CONTROL I 3
This course covers quality and inspection functions, organization of inspection, and charting methods of quality. Prerequisite: Reading Proficiency.

IE:137 MICROPROGRAMMING 3
This course will present system architecture and machine/assembly language programming for microprocessors (i.e. 6800, 8080, etc.). Programs will be developed relating to machine testing/repair machine language and its relationship to Logic Analyzers will be explored. Prerequisite: EE: 208, concurrent enrollment in EE: 233 and Reading Proficiency.

IE:138 MECHANICAL MEASUREMENT 3
This course is designed to provide the fundamentals of dimensional measurement for the technician. Measurement terms, equipment and tools will be explained and laboratory activities will provide the student an opportunity to master the basic skills of measuring devices. Scaled, vernier, micrometer instruments and dial indicators with gage blocks will be used. Measurement standards will be reviewed. Prerequisite: Reading Proficiency.

IE:232 JOB DESIGN AND WORK MEASUREMENT II 3
A continuation of IE: 131 with emphasis on work area design, work sampling and wage payments. Prerequisite: IE: 131 and Reading Proficiency.

IE:234 PLANT LAYOUT AND MATERIAL HANDLING 3
This course covers the layout of a production area, service areas and selection of materials handling equipment. Prerequisite: Reading Proficiency.

IE:236 INDUSTRIAL COST ANALYSIS 4
This course covers the product and process costing systems, equipment, cost, standard cost and overhead. Prerequisite: Reading Proficiency.

IE:237 ADVANCED PROBLEMS 3
This course provides an opportunity for the student to engage in a practical problem common to industry. Prerequisite: Reading Proficiency.

INFORMATION REPORTING TECHNOLOGY

IRT:101 PRINCIPLES OF JUDICIAL REPORTING I 3
This course introduces the student to the role of the reporter in trials, depositions, and administrative hearings. All phases of format and design are taught as it pertains to the production of trials, depositions, and administrative hearings. The student will receive instruction in reference materials, related jobs, NCRA Code of Professional Conduct, and basic proofreading techniques. Prerequisite: IRT:122 and Reading Proficiency.

IRT:121 MACHINE SHORTHAND I 3
This course introduces the student to the basic conflict-free theory for writing on the stenotype machine. The student will develop the ability to write simple words and sentences. Prerequisite: IS:102 or 30 wpm typing and Reading Proficiency.
I RT122  MACHINE SHORTHAND II  3
This course completes the introduction of the basic conflict-free theory for writing on the stenotype machine. The student will continue to develop their ability to write as question and answer dictation is used to build speed to 50 wpm. Prerequisite: Reading Proficiency.

I RT123  MACHINE SHORTHAND III  3
This course covers speedbuilding of literary, testimony, and jury charge material with emphasis on accurate transcription. The student will build speed to 90 wpm on testimony, 70 wpm on jury charge and 50 wpm on literary. Prerequisite: IRT:122 and Reading Proficiency.

I RT124  MACHINE SHORTHAND IV  3
This course continues to cover speedbuilding of literary, testimony, and jury charge material with emphasis on accurate transcription. The student will build speed to 120 wpm on testimony, 110 wpm on jury charge, and 90 wpm on literary. Prerequisite: IRT:123 and Reading Proficiency.

I RT125  MACHINE SHORTHAND V  3
This course continues to cover speedbuilding of literary, testimony, and jury charge material with emphasis on accurate transcription. The student will build speed to 140 wpm on testimony, 130 wpm on jury charge, and 110 wpm on literary. Prerequisite: IRT:124 and Reading Proficiency.

I RT126  MACHINE SHORTHAND VI  3
This course covers speedbuilding of literary, jury charge, and two-voice testimony with emphasis on accurate transcription. The student will build speed to 170 wpm on testimony, 150 wpm on jury charge, and 130 wpm on literary. Prerequisite: IRT:125 and Reading Proficiency.

I RT127  MACHINE SHORTHAND VII  3
This course covers speedbuilding of literary, jury charge, medical and technical testimony, and two-voice and trial testimony with emphasis on accurate transcription. The student will build speed to 200 wpm on testimony, 170 wpm on jury charge, and 150 wpm on literary. Prerequisite: IRT:126 and Reading Proficiency.

I RT128  MACHINE SHORTHAND VIII  3
This course covers speedbuilding of literary, jury charge, medical and technical testimony, and two-voice testimony with emphasis on accurate transcription. The student will build speed to the graduation requirements of 225 wpm on testimony, 200 wpm on jury charge, and 180 wpm on literary. Prerequisite: IRT: 127 and Reading Proficiency.

I RT138  INTRODUCTION TO COMPUTER-AIDED TRANSCRIPTION  2
This course introduces the student to computer terminology and gives instruction to the operation of a computer-aided transcription system. The student will receive instruction in the computer hardware data input device, system support, related software packages, application of realtime writing for the court, depositions, classroom, seminars and broadcast as well as how to produce a transcript and maintain a dictionary. Prerequisites: IRT:122 and IS:123 and Reading Proficiency.

I RT140  LEGAL TERMINOLOGY  3
This course will teach the student the meaning of legal and Latin terms. It will also cover instruction on civil and criminal law, the judicial system (including discovery, trial, and appellate processes), the legislative process, hearings, and arbitrations, research and citations, and the notary public law. Prerequisite: Reading Proficiency.

I RT142  EDITING OF LEGAL DOCUMENTS  3
This course covers the basic rules of English grammar, punctuation, spelling, numbers, capitalization, vocabulary development, proofreading of the spoken word, and the transcription of legal documents. Prerequisites: ENG:101 and IRT:122 and Reading Proficiency.

I RT143  INTRODUCTION TO CAPTIONING  3
This course teaches the student to write spoken words, with punctuation, by means of realtime translation, conflict-free writing system to provide instantaneous translation that will be used for broadcast captioning for the television. Prerequisite: IRT:128 and Reading Proficiency.

I RT145  RESEARCH TECHNIQUES FOR CAPTIONING  3
This course is designed to teach the student the research techniques that they will need to utilize in preparing to caption television shows. Students will learn about researching television websites for information to prepare their dictionaries and the vocabulary and captioning style guide that is needed for captioning television shows. They will learn about downloading newsroom computer files to prepare for prescribed news stories. Prerequisite: IRT:138 and Reading Proficiency.

I RT146  REALTIME APPLICATIONS FOR CART/CAPTIONING  3
This course will introduce the student to realtime translation and its application in CART and the captioning environment. Prerequisite: IRT:138 and Reading Proficiency.

I RT150  LITERARY  3
This course covers speedbuilding of literary dictation at speeds of 100 and 120 words per minute. Instruction will include writing the spoken word with punctuation by means of an NCRA Task Force approved Phase I and Phase II realtime translation theory to provide instantaneous, realtime translation, with special emphasis on dictation building/management. Prerequisite: IRT:124 and Reading Proficiency.

I RT156  JUDICIAL REALTIME APPLICATIONS  3
This course will introduce the student to realtime translation and its applications in court, depositions, hearings, and classrooms. The student will learn about videotaping in depositions for trial purposes, and litigation support. The student will learn about the different software systems that are available. Prerequisite: IRT:138 and Reading Proficiency.

I RT166  JUDICIAL REPORTING INTERNSHIP  1
This course introduces the student to judicial reporting in the courtroom and freelance through the supervision of reporters and faculty. The actual internship will commence when the student has met the prerequisites for this course. The student shall complete at least 40 verified hours of actual writing time during internship. Prerequisites: IRT127 or passing one 200 wpm testimony material test and Reading Proficiency.

I RT167  COLLOQUIY  2
This course covers the multi-voice identification of speakers in literary and testimony material, with emphasis on accurate identification of speakers. The student will build on speaker identification from two-voice identification to three-voice, four-voice, five-voice, six-voice, seven-voice, and eight-voice identification, and more. Prerequisite: IRT:125 and Reading Proficiency.

I RT168  CART/CAPTIONING INTERNSHIP  1
The objective of the CART/Captioning internship is to spend time applying learned skills and knowledge to real world and simulated applications in the workplace. Prerequisite: IRT:250 and Reading Proficiency.

I RT201  PRINCIPLES OF JUDICIAL REPORTING II  2
This course covers advanced phases of formatting, design, and creating include pages to be inserted in trial, deposition, and administrative hearings. The student will receive advanced instruction on developing and using parenthetical phrases, punctuating the spoken word while using computer-aided transcription, and proofreading techniques. Prerequisites: IRT:101 and IRT:126 and Reading Proficiency.
**IRT202  BROADCAST CAPTIONING I**  
This course is designed to teach students the basics of broadcast captioning. Students will learn about dictionary management, researching for a show, captioning style and format, evaluating their writing, and the basic formats for writing news, weather, sports, and other broadcasts. Prerequisite: IRT:129 or IRT:221 and Reading Proficiency.

**IRT203  BROADCAST CAPTIONING II**  
This course is designed to teach students the basics of broadcast captioning for all sports captioning. Students will learn about dictionary management, researching for a show, captioning style and format, evaluating their writing, and all the formats for writing all the sports shows. Prerequisite: IRT:202 and Reading Proficiency.

**IRT250  LITERARY II**  
This course offers speedbuilding of literary dictation at speeds of 140 and 160 words per minute. Instruction will include writing the spoken word with punctuation by means of an NCRA Task Force approved Phase I and Phase II realtime translation theory to provide instantaneous, realtime translation, with special emphasis on dictionary building/management. Prerequisite: IRT:150 and Reading Proficiency.

**IRT251  LITERARY III**  
This course covers speedbuilding of literary dictation at speeds of 180 and 200 words per minute. Instruction will include writing the spoken word with punctuation by means of an NCRA Task Force approved Phase I and Phase II realtime translation theory to provide instantaneous, realtime translation with special emphasis on dictionary building/management. Prerequisite: IRT:250 and Reading Proficiency.

**INFORMATION SYSTEMS**

**IS:101  KEYBOARDING**  
This course is designed for the beginning student to develop touch control of the keyboard, to use proper techniques, to build skill to a minimum of 25 words per minute for one minute. Emphasis is on learning the alphabetic, numeric, and symbol keys and on building basic skill. Pass/Fail grading. Additional hours may be required.

**IS:102  KEYBOARDING AND FORMATTING**  
This course is designed for the beginning student to develop touch control of the keyboard, to use proper techniques, to build basic skill to a minimum level of 35 words per minute for three minutes, and to apply basic formatting skills to the production of letters, memorandums, reports, and tables. Additional hours may be required.

**IS:103  INFORMATION SYSTEMS FOR BUSINESS**  
A study of computers and information systems for business functions. Topics include computer technology and its impact on business organization, role of people in an information system environment, programming fundamentals, information systems and the computer in solving business management problems. Credit not allowed for this course if credit is given for IS: 100. Prerequisite: Reading Proficiency.

**IS:109  PROOFREADING AND EDITING SKILLS**  
This course is designed to assist the office professional control the quality of business communication through proofreading for accuracy in mechanics, format, and content as well as editing documents for correctness, conciseness, and clarity. Reference materials are used as a source in applying spelling, word division, grammar, capitalization, punctuation, number and word usage. Prerequisite: IS:102 or IS:101 or IS:164 and Reading Proficiency.

**IS:110  PROGRAM DESIGN AND DEVELOPMENT**  
Study in problem solving methods used in computer based systems including systems flowcharting, decision tables, and specialized techniques of procedural computer programming and systems analysis. Prerequisite: IS: 103 and Reading Proficiency.

**IS:111  PROGRAMMING IN BASIC**  
Study of the use of the BASIC computer programming language to solve business oriented information systems problems. This course will cover introductory programming topics. Additional lab time may be required. Prerequisite: IS: 110 or concurrent enrollment in IS: 110 and Reading Proficiency.

**IS:112  SOFTWARE AND HARDWARE CONCEPTS**  
A survey of technical topics related to computer systems with emphasis on the relationships between hardware architecture and software systems. Covers binary and hexadecimal arithmetic, data representation, and introduces machine code and symbolic language. Prerequisite: IS: 103. Completion of MTH:140 recommended and Reading Proficiency.

**IS:116  MICROCOMPUTER LITERACY**  
Introduction to microcomputer hardware, software, terminology and applications; includes hands-on use of popular application software. Additional lab time required. Prerequisite: Reading Proficiency.

**IS:117  PASCAL PROGRAMMING**  
Course covers programming through multidimensional arrays, function and procedures with parameters, number systems, data representation, input and output of data, conditional flow of control and loops; program construction, testing and debugging programs; files and text processing. Programming examples and assignments in Pascal in a computer lab environment will be required. Prerequisite: MTH:140 and Reading Proficiency.

**IS:118  MICROCOMPUTER APPLICATIONS-DATABASES**  
Studies the use of a relational data base system on the microcomputer with business and personal applications. Additional lab time may be required. Prerequisite: IS: 123 or equivalent experience.

**IS:119  MICROCOMPUTER APPLICATIONS-WORD PROCESSING**  
This class is an introduction to word processing using a current software program. Included in this course are the basic functions of creating, formatting, editing, and printing documents. Additional lab assignments will be required outside of class. Prerequisite: IS:123 or equivalent experience.

**IS:120  MICROCOMPUTER APPLICATIONS-SpreadSheETS**  
Studies the use of a spreadsheet program with business and personal applications. Additional lab time may be required. Prerequisite: IS: 123 or equivalent experience and Reading Proficiency.

**IS:122  INTRODUCTION TO WINDOWS**  
This course introduces basic concepts of the Windows environment beginning with the anatomy of a Window. The relationship between various PC operating systems, and the advantages and disadvantages of the Windows interface will be discussed. Students will learn how to create and manage files within the organizational structure of a Windows environment. The desktop, accessories, and navigational tools are among the topics to be covered.

**IS:124  WINDOWS-ADVANCED TOPICS**  
This course provides students with an advanced approach to understanding and using a Windows operating system. Students will learn how to create and share files and folders and how to customize and maintain a workstation. Prerequisite: IS:122 and Reading Proficiency.

**IS:125  EXCEL FOR WINDOWS**  
An introductory course in using Excel for Windows Worksheet for applications in accounting, budgeting, expense tract tracking, what-if analysis, charting, database development, queries and other applications. Prerequisite: IS:123 or equivalent experience.

**IS:126  E-MAIL AND INFORMATION MANAGEMENT**  
This course examines, through practical application, the creation and management of information received through electronic mail and networks. Prerequisites: IS:123 and IS:102 and Reading Proficiency.
IS:127  INTRODUCTION TO THE AS/400  3
This course is designed to introduce the student to the AS/400. The course presents the architecture of the AS/400 system and the concepts of the AS/400 operating system. Other features which are covered include AS/400 menus, system displays, logical and physical files, and introduction to the Command Language. Prerequisite: IS: 103 or IS: 116 or equivalent computer experience. Prerequisite: Reading Proficiency.

IS:129  HTML  1
This course covers the essentials of creating HTML documents such as those used on the World Wide Web. Students will create basic pages which include simple text, links, and inline images. Prerequisite: IS: 123 or experience using a graphical user interface and Reading Proficiency.

IS:130  HARDWARE AND SOFTWARE SUPPORT  3
This course offers the student through lecture, demonstrations, and hands-on exercises the in-depth knowledge and concepts necessary to perform microcomputer-based hardware and software support. Topics include hardware fundamentals and troubleshooting; operating system concepts; software installation and troubleshooting; documentation; and help desk issues. This class requires an average of three additional hours for research and reading assignments per week. Prerequisite: IS: 105 and Reading Proficiency.

IS:131  ADVANCED HTML  2
This course is a continuation of IS: 129, Hypertext Markup Language and is designed to introduce the student to the more advanced techniques of HTML. Use of tables; creation and use of frames; construction of forms; imagemaps; working with external media (sound and animation); incorporating counters, guestbooks, and search engines; use of “meta information” tags; and a discussion of HTML editors and converters will be presented. Prerequisite: IS: 129 and IS: 118 or IS: 129 and IS: 151 and Reading Proficiency.

IS:132  WINDOWS-INTERMEDIATE TOPICS  1
This course is a continuation of Introduction to Windows. Students will become more familiar with the Windows interface and will learn how to manage and manipulate programs, files, folders and objects. The accessories will be covered in depth. Prerequisite: IS: 123 or equivalent experience.

IS:133  INTRODUCTION TO SQL  3
This course covers the concepts of SQL and relational databases. Students will learn how to create tables, enter and manipulate data, query data in tables and format the results using SQL commands. Advanced techniques to retrieve data writing SQL scripts and security issues will also be taught. Additional lab time may be required. Prerequisite: IS: 225 and Reading Proficiency.

IS:135  COMMUNICATION AND DESIGN FOR THE WWW I  3
Students will learn to use the elements of graphic design to produce Web pages that effectively deliver art and information for business/organizational communications. Prerequisite: ART:133, ART:131 or ART:227 and Reading Proficiency.

IS:136  INTERNET FUNDAMENTALS  1
This hands-on course allows students to discover the most utilized features of the Internet. Students learn to use E-mail, the World Wide Web, FTP, Gopher sites, List serves, News groups and Chat rooms. Searching for information and evaluating the results of these searches is emphasized. Students will be provided with a college E-mail account valid for the entire semester. Prerequisite: IS: 123 or equivalent knowledge of Windows and Reading Proficiency.

IS:137  MICROCOMPUTER APPLICATIONS-PRESENTATION SOFTWARE  1
This course introduces the student to the concept of using a graphics presentation program to create effective, customized business presentations. Students will create on-screen slide shows, audience handouts, speaker's notes and outlines for selected case studies. Emphasis will be placed on mastering the word processing, drawing, color palette and graphing tools used in a Windows environment. A discussion of incorporating multimedia elements into on-screen presentations will be included. Additional lab time may be required. Prerequisite: IS: 123 or equivalent experience.

IS:139  WEB PUBLISHING USING ADVANCED HTML  3
This course is a continuation of IS:129 and is designed to introduce the student to the more advanced techniques of HTML. Dynamic HTML and XML. Use of tables; creation and use of frames; construction of forms, imagemap; working with external media (sound and animation); incorporating counters, guestbooks, style sheets, and search engines; use of meta information tags; and a discussion of HTML editors will be presented. Students will learn to maintain their own web site. Prerequisites: IS: 129 and IS: 118 or IS: 129 and IS: 151 and Reading Proficiency.

IS:141  GRAPHICS FOR THE WEB  3
This course focuses on generating graphics that can be utilized within the context of the Internet. Topics will include use of graphics at the appropriate times, performance issues, button creation, animated graphics, and multimedia tools. Prerequisite: IS:129 and Reading Proficiency.

IS:150  MICROCOMPUTER APPLICATIONS-MICROSOFT PUBLISHER  1
This course instructs the student with no prior design experience in developing professional quality publications using Microsoft Publisher. Topics include designing and producing documents which combine text, graphics, illustrations, and photographs. Students will employ desktop publishing tools to produce high-quality color publications such as newsletters, flyers, logos, signs and forms. Laboratory assignments will be required outside of class. Prerequisite: IS:123 and Reading Proficiency.

IS:151  MICROCOMPUTER APPLICATIONS IN BUSINESS  4
Survey of frequently used programs for the business environment. No programming knowledge is required. Software packages from these categories will be studied: operating system, electronic spreadsheet, database management, word processing, and presentation software. Additional lab time may be required. Prerequisite: IS: 123 or equivalent experience.

IS:155  OFFICE TECHNOLOGY  2
This course examines electronic equipment utilized to load specialized software, to enter, retrieve, and update data on a PDA (Personal Digital Assistant), to scan, fax, and present data on a large screen, and to conduct videoconferencing and teleconferencing sessions. Prerequisites: IS:151 or IS:118 and IS:119 and IS:125 and IS:137 or (IS:118 and IS:119 and IS:120 and IS:137). Reading Proficiency.

IS:156  MICROCOMPUTER APPLICATIONS-INTERMEDIATE DATABASES  1
Continuing on the building blocks of IS:118 the student will learn about action queries inner/outer joins, mail merge, importing and exporting specifications, queries that “prompt” for criteria, and additional formatting techniques for reports. Macros will also be introduced. Prerequisites: IS:118 or IS:151 and Reading Proficiency.

IS:157  MICROCOMPUTER APPLICATIONS-INTERMEDIATE WORD PROCESSING  1
This class is a continuation of IS:119. The students will merge documents, create and sort tables, insert images, utilize drawing objects, use special formatting features, and prepare charts and web pages. In addition, students will create basic macros and integrate/import other applications into documents. Prerequisites: IS:119 or IS:151.

IS:158  MICROCOMPUTER APPLICATIONS-INTERMEDIATE SPREADSHEETS  1
This class is a continuation of IS:120. In it, students will utilize spreadsheet productivity features to create, modify, and format charts; add and format graphic objects to enhance worksheets and charts; sort and filter data; and include worksheets on web pages. Prerequisites: IS:120 or IS:151 and Reading Proficiency.
IS:161 MICROCOMPUTER APPLICATIONS-ADVANCED WORD PROCESSING 1
This class is a continuation of IS:157. It in additional emphasis will be placed on advanced word processing features. Students will create advanced macros, style sheets, outlines, master documents, fill-in-questions, tables of contents, and shared documents. Prerequisites: IS:157 and Reading Proficiency.

IS:164 VOICE RECOGNITION TECHNOLOGY 1
This course is an introduction to Voice Recognition Technology. Voice Recognition is a program that trains the computer to recognize voice input as an alternative to typing. Voice Recognition is an important tool to assist companies in the production of industry-specific documents. Additional lab time will be required. Prequisites: IS:119 or IS:151 and Reading Proficiency.

IS:165 MICROCOMPUTER APPLICATIONS-MICROSOFT PROJECT 1
This course introduces students to the Microsoft Project software application. Microsoft Project allows students, professionals, volunteers, or an individual working on a project to organize all the details of a project into one central repository. Students learn to easily plan, communicate, track, and close projects. Classes consist of lectures, demonstrations, and hands-on case studies. Prequisite: Reading Proficiency.

IS:200 ELECTRONIC RECORDS MANAGEMENT 2
This is a course designed to familiarize students with records management procedures from creation through processing, maintenance, retention, retrieval, protection, and disposition. Electronic and manual filing rules are covered. Alphabet, numeric, subject, and geographic filing methods are emphasized. Topics include database management. Prerequisites: IS:118 or IS:151 and Reading Proficiency.

IS:202 INFORMATION SYSTEMS FIELD WORK 3
A course to provide the student with practical experience in data processing. Assignments will be made at selected local data processing installations. Evaluation of the student's performance will be a cooperative effort between the internship sponsor and a faculty member of the program. Total of 120 working hours required. Prequisites: IS:110 and Reading Proficiency.

IS:203 BUILDING SPEED AND ACCURACY 1
This course is designed for students to improve inputting skills (speed and accuracy) through timed copy analysis, goal setting and corrective drill practice. Prerequisite: IS:102 or AOS:101, or IS:164 or AOS:516, or 25 wpm and Reading Proficiency.

IS:204 BUILDING TEN-KEY NUMERIC SKILLS 1
This course teaches the fundamentals of operating the ten-key number pad using proper touch techniques with emphasis on speed and accuracy development. Prerequisites: IS:101 or IS:102 or IS:164 or 25 wpm and Reading Proficiency.

IS:205 MEDICAL TERMINOLOGY 4
This course provides a broad survey of the language of medicine and health technologies. Students learn to accurately spell and define common medical terms related to major disease processes, diagnostic procedures, laboratory tests, abbreviations, drugs, and treatment modalities. Emphasis is placed on formation, definition and pronunciation. Prequisite: Reading Proficiency.

IS:208 MACHINE TRANSCRIPTION APPLICATIONS 2
This course emphasizes the development of skill in transcribing a variety of business communications from machine dictation. Language skills, specialized business vocabulary, formatting, proofreading, editing, listening, and decision-making are applied and reinforced in the production of industry-specific documents. Additional lab hours will be required. Prequisites: IS:203 and IS:109 and Reading Proficiency.

IS:209 DEVELOPMENT OF END-USER MICROCOMPUTER SYSTEMS 3
The basic methodologies used in developing an information system in the microcomputer environment will be introduced. Integration of software packages and networking will be included. Simulation will be used to develop techniques. Prequisites: IS:118 and IS:119 and IS:125, or IS:151. Reading Proficiency.

IS:210 OFFICE PROCEDURES 3
This is an advanced course that expands competencies in business communication, processing information via technology, and coordinating office information. Students will learn human relations skills and will be introduced to computer-based tools including Internet applications and groupware. Prerequisites: IS:102 or AOS:101, IS:109 or AOS:120, and IS:151 and Reading Proficiency.

IS:211 COBOL PROGRAMMING I 3
Study of COBOL (Common Business Oriented Language). Programs covering applications with sequential file techniques will be written by the student and compiled and executed on the computer. Additional lab time may be required. Prerequisite: IS: 110 or concurrent enrollment in IS: 110 and Reading Proficiency.

IS:212 COBOL PROGRAMMING II 3
Continuation of IS: 211. Programs of increased complexity covering random file techniques, multiple input files and program optimization will be written, compiled and executed on the computer. Additional lab time may be required. Prerequisite: IS: 211 and Reading Proficiency.

IS:213 ADVANCED DOS 1
Continuation of IS: 226. Students will study more complex functions of DOS including the tree structured directory system, paths, hard disk management, batch files, and menus. Prerequisite: IS: 226 and Reading Proficiency.

IS:214 SPREADSHEET MACROS AND ADVANCED TOPICS 1
Students will study more complex functions of spreadsheets including table lock-ups, graphics, data base functions, and macros. Prerequisites: IS: 226 and IS: 120 or IS: 125 and Reading Proficiency.

IS:215 INTRODUCTION TO LOCAL AREA NETWORKS 3
This course presents concepts of local area networking including terminology, architecture, topologies, standards and protocols, cables, and operating systems. Criteria for selecting, organizing and maintaining a LAN will be introduced. Planning a network installation, connecting physical components, performance considerations, and security issues also will be presented. Students will be exposed through demonstrations and case studies to various operating systems, topologies, and case protocols. Prerequisites: IS: 103 and IS: 130 (may be a corequisite), and Reading Proficiency.

IS:217 NETWORK PERFORMANCE MONITORING 3
This course introduces students to industry network management standards and to various mechanisms for implementing a standards-based network management system. Configuration and performance implications of network interconnection devices will be introduced. The theories behind network performance tuning, problem identification and resolution, and methods for analyzing link and server performance will be presented. Hands-on activities and demonstrations will be used to expose students to a number of commercially available products. Prerequisites: IS: 235 and IS: 236 and Reading Proficiency.

IS:218 NETWORK INTERNSHIP 3
A course to provide students with practical experience in computer network environment. Assignments will be selected by the local computer network installations. Evaluation of students' performance will be a cooperative effort between the internship sponsor and a faculty member of the program. Total of 120 working hours required. Prerequisite: IS: 235 and permission of instructor and Reading Proficiency.
IS:224 ON-LINE PROGRAMMING-CICS/VSE USING COBOL APPLICATIONS 3
A general overview and features of Command Level CICS/VSE for COBOL application programmers. Topics: mapping support, program components, working storage and linkage section, procedure division, terminal input/output control, file handling, temporary storage. Application programs involving file handling (inquiry, add, update, delete, and browse). Prerequisite: IS: 212 and Reading Proficiency.

IS:225 DATABASE MANAGEMENT 3
This course will cover the concepts, skills, methodology and database technology necessary to design and implement a database management system. Topics include types of databases, data structures, relational modeling and designing techniques and tools. Additional lab time may be required. Prerequisite: IS: 241 and Reading Proficiency.

IS:226 MICROCOMPUTER OPERATING SYSTEM-DOS 1
This course introduces the student to one of the most popular of the microcomputer operating systems MS/DOS and PC/DOS version 3.3 or later. The course provides an overview of the purposes of system software and the commands necessary to instruct the hardware. The relationship between the operating system and application software also will be explored and explained. Prerequisite: Reading Proficiency.

IS:227 C PROGRAMMING LANGUAGE I 3
Study of the C programming language. Topics to be covered include logic structures, data structures, files, pointers, system and user defined functions, and input arrays. Programs will be written and executed on the computer. Additional lab time may be required. Prerequisite: IS: 110, IS: 111 or IS: 117 or IS: 211 or IS: 245 and Reading Proficiency.

IS:229 UNIX 3
This course is an introduction to the UNIX operating system with special emphasis on the creation, organization, and maintenance of files. Students will be introduced to shell programming and to the standard UNIX utilities. System administration and script writing will also be presented. Students will be expected to create functional and efficient scripts. Prerequisites: IS: 110 or IS: 117 or IS: 227 or comparable experience and Reading Proficiency.

IS:231 INTRODUCTION TO DATA COMMUNICATIONS 3
The goals, history and purposes of Data Communication will be explored. The components of a network; hardware, software, and connecting logic will be presented individually and then interrelated to provide an understanding of a communication system concept. Different types of networks and the technology that makes them function will be presented. Case studies will be employed to provide practical experience in the Data Communications area. Prerequisite: IS: 103 and Reading Proficiency.

IS:232 INTRODUCTION TO TELECOMMUNICATIONS 3
History, regulation and technology as applied to the telecommunication industry will be studied to provide a foundation from which sound decisions relating to selection of telecommunications equipment can be made. Methods of analyzing a site’s needs regarding telecommunication hardware will be explored. In addition the student will be made aware of the various information and product resources available within the industry. This course is slanted toward the business management applications of telecommunications, not the engineering technical electronic aspects. Prerequisite: Reading Proficiency.

IS:233 COMPONENTS OF VOICE/DATA COMMUNICATIONS 3
This course will explore the basics of telecommunications equipment including instruments, PBXs, switching, transmission, and customer equipment and services. Telecommunications networks equipment also will be discussed, including coaxial cable, microwave satellite and fiber optics. Students also will review current vendor offerings and compare and contrast services. Prerequisites: IS: 231 and IS: 232 or department approval and Reading Proficiency.

IS:234 DATA/VOICE TRAFFIC ANALYSIS 3
This course will cover evaluating and management of a voice/data systems, identifying costs, establishing a corporate telecommunications policy, and selecting, implementing and controlling a telecommunications system. Principles and procedures of traffic engineering, the impact of competition and fine system tuning will also be covered. Prerequisite: IS: 231 and IS: 223 and Reading Proficiency.

IS:235 NETWORK DESIGN AND INSTALLATION 3
This course provides students with the knowledge and practical experience to design and install a scalable computer-based network that provides end-user connectivity to local and remote servers. The course emphasis is on the installation of network servers and network operating systems. LAN and WAN design and internetworking issues will also be examined. Prerequisites: IS: 215 and IS: 231 and Reading Proficiency.

IS:236 NETWORK ADMINISTRATION 3
This course provides students with the knowledge and practical experience to administer local and enterprise-wide computer networks. Control of desktop systems, organization and maintenance of user accounts, multiprocessor client support and network security will be introduced. High speed internetworking technologies and protocols will also be presented. Prerequisites: IS: 215 and IS: 231 and Reading Proficiency.

IS:237 COMPUTER SYSTEM AND NETWORK SECURITY 3
This course presents a survey of computer system and network security tools and mechanisms. The focus is on the terminology, technologies, and standards used to implement modern security systems, including Internet-related security. Prerequisite: IS: 231 and Reading Proficiency.

IS:238 WEB SERVER IMPLEMENTATION 3
Businesses are increasingly using the World Wide Web as a basis for customer support, electronic marketing, and electronic commerce. This course prepares students to implement the servers that are needed to support these specialized applications. Requirements of both Internet and Intranet server implementation will be examined. Hands-on activities will be performed on a variety of platforms. Prerequisite: IS: 225 and Reading Proficiency.

IS:239 ROUTER ADMINISTRATION 3
This course prepares students to configure routers with a variety of interfaces and protocols. Specific topics include the Cisco Internetworking Operating System (IOS) commands, routed protocols, routing protocols including RIPv2 and IGRV, and applicable components of the TCP/IP protocol suite. Prerequisites: IS: 215 and IS: 231 and Reading Proficiency.

IS:241 SYSTEMS ANALYSIS AND DESIGN 3
This course will cover the concepts, skills, methodologies, techniques and perspectives essential to analyze and design information systems. Visual and emerging development tools will be used to focus on object-oriented and visual development of information systems. Additional lab time may be required. Prerequisite: IS: 103, IS: 110 and a programming language is recommended and Reading Proficiency.

IS:245 RPG/400 PROGRAMMING 3
An introduction to RPG/400: the student will use RPG specifications to create programs using structural programming techniques. The student will code, compile, and test RPG programs that process database files and produce reports. Additional lab time may be required. Prerequisites: IS: 110 and IS: 127 or departmental approval and Reading Proficiency.

IS:246 VISUAL BASIC PROGRAMMING 3
Visual Basic programming will be introduced and the use of objects, events, properties, methods, and the concept of inheritance will be explained. Projects will be completed using Visual Basic. Topics such as creating forms, executable files, control structures, and linking to
IS:247 INTERACTIVE RPG/400 3
This course is a continuation of IS: 245. In this course, the student will learn and practice interactive RPG/400 programming for online systems, different methods of exception handling, and other advanced topics. Additional lab time may be required. Prerequisite: IS: 245 and Reading Proficiency.

IS:248 AS/400 COBOL 1
This course is designed to introduce students who are experienced in COBOL to COBOL/400. The differences between COBOL and COBOL/400 will be explained as well as how to use the IBM language extensions that provide access to AS/400 features. Prerequisites: IS: 127 and IS: 212 or departmental approval and Reading Proficiency.

IS:249 AS/400 COMMAND LANGUAGE (CL) 3
This course introduces the student to the AS/400 Command Language (CL). The student will learn the syntax rules for the commands and how to utilize them. The student will also learn how CL commands can be executed both interactively, or in a CL program. Prerequisites: IS: 127 or departmental approval and Reading Proficiency.

IS:250 SCRIPTING FOR THE INTERNET WITH PERL 3
This course will introduce the student to script writing for the Internet via the Common Gateway Interface (CGI) using the programming language Perl as the scripting language. The basics of Perl will be presented, including language elements (variables, control flow, functions, built-in operators) as well as the concepts of event driven programming and server-side processing of HTML forms. Students will learn to create web-based forms and program the associated CGI scripts to construct dynamic, interactive Websites. Prerequisite: IS: 129 and IS: 227, (or other high-level programming language) and Reading Proficiency.

IS:251 INTRODUCTION TO JAVA 3
This course is an introduction to JAVA, a cross-platform, object-oriented programming language that is used to produce "applets" to provide animation, live updating and secure two-way interaction on World Wide Web servers. Students are offered extensive hands-on experience with the JAVA language and its run-time development environment. During the hands-on exercise, JAVA is used to create an assortment of applets, integrate them into a dynamic interactive Web site, and build stand-alone applications. Prerequisite: IS: 111 or IS: 17 or IS: 227 (or comparable programming experience and a basic familiarity with a graphical user interface, the Internet and the World Wide Web) and Reading Proficiency.

IS:252 ADVANCED JAVA 3
The class starts with an in-depth look at operators, assignments, modifiers, flow control, object oriented programming, threads, layout managers, event handling, files, and Java utility classes. Students will learn this by creating Java programs that make extensive use of threads, layout managers, and event processing. An introduction to Swing is also presented. This course follows the subject areas presented on most industry Java certifications, and will help a student prepare for such a certification. Prerequisite: IS: 251 and Reading Proficiency.

IS:254 ADVANCED MICROCOMPUTER OPERATING SYSTEMS 3
This course presents advanced topics related to the selection, installation and support of operating systems for individual personal computers and computer workstations on a network. Highly technical material covering disk partitioning, I/O interrupts, DLLs, peripheral drivers, registry editing and security techniques will be presented. Students will master course objectives through a combination of lectures, demonstrations, case studies, and/or hands-on exercises. Prerequisites: IS: 103 and IS: 124 and Reading Proficiency.

IS:255 ADVANCED VISUAL BASIC PROGRAMMING 3
This course will build upon the basic fundamentals taught in IS: 246 Visual Basic Programming using relational databases for designing and building client/server projects. Topics such as basic SQL will be used to access relational database models. Database access controls, third party custom controls, and ODBC specification will be covered. Additional lab time may be required. Prerequisite: IS: 246 and IS: 261 and Reading Proficiency.

IS:256 C++ OBJECT-ORIENTED PROGRAMMING 3
Study of the C++ Object-Oriented Programming Language. Topics to be covered include classes, class objects, derived types, encapsulation, inheritance, abstraction, and the derived classes. Program will be written and executed on the computer. Additional lab time may be required. Pre requisite: IS: 227 and Reading Proficiency.

IS:257 ADVANCED DATABASE DESIGN 3
This course is a continuation of the database design course. It will cover implementation concepts such as client server architectures, middleware, SQL functionality, distributed databases and data warehousing concepts. A project will be implemented in this course to allow students to apply database concepts. Additional lab time may be required. Pre requisite: Minimum of 15 hours of IS courses including IS: 241 and a two semester sequence of a programming language and Reading Proficiency.

IS:259 INTRODUCTION TO JAVASCRIPT 3
This course is an introduction to JavaScript, an object-oriented programming language interpreted by most Web browsers; it serves as an extension to HTML. JavaScript allows easy access to the browser's features and enables Web pages to be interactive and intelligent. JavaScript works directly with HTML elements in a Web page, and utilizes event handlers and other various high-level programming features to give HTML pages the power to process user actions. Additional lab time may be required. Note: Either IS: 131 or IS: 139 would be excellent preparation for the HTML knowledge component needed for success in IS: 259. Pre requisite: IS: 111 or IS: 117 or IS: 227 (or IS: 131 or IS: 139) or department approval and Reading Proficiency.

IS:260 VISUAL C++ APPLICATION DEVELOPMENT 3
This course is an introduction to Windows programming using Visual C++ to program Microsoft Foundation Classes (MFC) and the Windows API. Microsoft Foundation Classes is a set of objects that allow C++ programmers to create object-oriented Windows applications. During the hands-on exercises, Visual C++ will be used to create an assortment of applications that use forms, graphics, printing, documents and message based programming. The Visual C++ code generation tools AppWizard and the ClassWizard will be used to generate a framework from which complete applications can be composed. Additional lab time may be required. Prerequisite: IS: 256 and Reading Proficiency.

IS:261 OBJECT-ORIENTED PROGRAM DESIGN 3
This course focuses on programming design that develops an application's data and the methods you need to manipulate that data. Topics covered will include defining a class, instantiating and using objects, using inheritance, and understanding polymorphism. Code examples will be presented as part of the class discussions. Benefits of object-oriented programming will also be discussed. A strong understanding of modular procedural programming concepts such as variables, modules, and passing values to modules is required as a starting point for this course. Prerequisites: IS: 111 or IS: 127 or IS: 117 or IS: 211 and Reading Proficiency.
IS:262 ADVANCED WEB DEVELOPMENT 3
This course focuses on hands-on exercises in order to help the student gain an in-depth knowledge of the concepts and tools needed to write professional, multitiered, client-server Web applications. The course will introduce standard based Web concepts such as Object Models, “Active Server” programming, and tools and techniques for connecting Web sites to “back-end” databases. One or more industry standard SQL engines will be used in project development along with scripting languages, programming interfaces, and “remote” data objects (such as JDBC). Prerequisites: IS: 129 or previous HTML/Web development experience and demonstrated proficiency using procedural programming languages preferably C/C++ or Java. Reading Proficiency.

IS:264 ADVANCED UNIX: SYSTEM ADMINISTRATION I 3
This course is designed to prepare students to perform basic UNIX System Administration tasks at the System Administrator I level. Students will learn how to perform System Administrator software, hardware, and network tasks and advanced shell programming techniques including job scheduling with cron. They will also learn about user, group, file, and directory security, physical and logical device configuration, and system backups and restores. Prerequisite: IS: 229 and Reading Proficiency.

IS:266 UNIX SHELL PROGRAMMING 3
This class is for experienced UNIX users with programming experience who wish to learn about UNIX scripting in depth. The class covers Bourne (sh), Bourne again (bash), Korn (ksh) C shell (csh), and TC shell (tcsh) scripting and the scripting languages awk and sed. Students will write, debug, and run shell scripts using the UNIX operating system. Pre requisite: IS:229 and Reading Proficiency.

IS:270 ORACLE PL/SQL 3
This course covers the concepts of Oracle PL/SQL and developing databases applications. Students will learn how to master PL/SQL syntax and the structured programming language. Advanced techniques in table handling, cursors, triggers, procedures and functions will be taught. Additional lab time may be required. Prerequisite: IS: 133 and Reading Proficiency.

IS:271 ORACLE USER INTERFACE DESIGN 3
This course covers the development of GUI applications in Oracle. Students will use Developer/2000 tools such as Oracle Forms, Oracle Reports and Oracle Graphics to develop object-based, database applications. Practical solutions for typical business situations will be discussed, demonstrated and developed in a lab environment. Additional lab time may be required. Prerequisite: IS: 225 or equivalent business experience and Reading Proficiency.

IS:272 ORACLE DATABASE ADMINISTRATION 3
This course covers the activities performed while administering an Oracle database. Students will be installing and customizing the database, performing backup and recovery procedures, apply database tuning techniques and implement database security methods. Students will be exposed to real world examples of the various tasks that a DBA will perform on a daily basis. Additional lab time may be required. Prerequisite: IS: 225 or equivalent business experience and Reading Proficiency.

IS:273 ORACLE DESIGN AND IMPLEMENTATION 3
This course covers the concepts, fundamental issues and techniques for the design and development of an Oracle database. Students will be exposed to all the phases and tasks of the design process, including business modeling, conceptual and physical modeling strategies in developing application systems in Oracle. Requirements of data warehouse design and implementation will be discussed along with design methods for distributed database and Web-based applications. Students will gain hands-on experience in Oracle design tools. Prerequisite: IS: 225 or equivalent business experience and Reading Proficiency.

IS:291 CO-OP WORK EXPERIENCE I - INFORMATION SYSTEMS 3
A cooperative education work experience consists of a work assignment with an employer or agency (minimum of 15 hours per week), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisite: Reading Proficiency.

IS:292 CO-OP WORK EXPERIENCE II - INFORMATION SYSTEMS 3
Continuation of IS: 291. Prerequisite: IS: 291 and Reading Proficiency.

IS:293 CO-OP WORK EXPERIENCE III - INFORMATION SYSTEMS 3
Continuation of IS: 292. Prerequisite: IS: 292 and Reading Proficiency.

INTERDISCIPLINARY STUDIES

IDS:101 CORNERSTONE 3
An introductory level course in which, through a variety of themes and topics, students will be introduced to the overall goal of general education and will explore the moral and ethical values of a diverse society in order to understand their own decision making process. They will learn how to identify the arguments of others and how to articulate their own. Skills such as communicating, higher-order thinking, and managing information, as well as orientation skills conducive to the successful completion of a college education, will be integrated throughout the course. This is a technology-enhanced course that requires students to gain proficiency in the basic use of computers. Prerequisites: ENG:030 or appropriate placement test score, and RDG:030 or appropriate placement test score and Reading Proficiency.

IDS:201 CAPSTONE 4
This interdisciplinary course focuses on a selected topic or cluster of related topics which admit of multiple perspectives. Students research and analyze information from traditional and electronic sources and use the results to produce and present a project. This writing intensive course emphasizes the management of information and may integrate valuing, higher-order thinking and communicating skills. Prerequisite: Completion of 27 hours of General Education including IDS:101 and Reading Proficiency.

INTERNATIONAL BUSINESS

IB:100 INTERNATIONAL BUSINESS 3
An introduction to various facets of international business, from marketing to the completion of shipment. Emphasis is placed on terminology and the importance of understanding cross-cultural differences. Prerequisite: Reading Proficiency.

IB:200 THE EXPORT PROCESS 3
An introduction to the handling of export transactions. Topics include the examination of supporting roles of such organizations as the freight forwarder, the international banker, the freight carrier, and the insurance company in the export process. Students are presented with numerous examples of the process from the point of origin of goods or services to their final destination. Prerequisite: IB: 100 or departmental approval and Reading Proficiency.

IB:201 THE IMPORT PROCESS 3
An introduction to the handling of import transactions. Special emphasis is given to the role of the U.S. Customs tariff, regulations, and government-mandated documentation as these impact on the import process. Prerequisite: IB: 100 or departmental permission and Reading Proficiency.
IB:202 INTERNATIONAL MARKETING 3
An introduction to the basic principles involved in the marketing of goods and services internationally. Emphasis is placed on the differences in marketing opportunities, practices, and constraints between the U.S. domestic markets and the markets among other nations of the world. Topics include: determining feasibility of export/import, obtaining foreign agents to handle distribution and special licensing, and special packaging according to environmental conditions. Prerequisite: IB: 100 and BUS:104 or departmental permission and Reading Proficiency.

IB:203 INTERNATIONAL TRANSPORTING (FREIGHT FORWARDING) 3
An introduction to principles and practices of freight forwarding. Study includes a focus on the volume and complexity of government regulations, maritime laws, and transportation agreements as they affect traffic/freight movements involving international shipments by motor, rail, water and air. Prerequisite: IB: 100 or departmental permission and Reading Proficiency.

IB:205 INTERNATIONAL BUSINESS ORGANIZATION AND MANAGEMENT 3
Designed to acquaint the student with the basic principles, concepts and functions in order to direct, plan, organize, staff and control the operation of a company buying or selling products or services on the international market. Topics include differences in cultural, political and religious values, legal environments and technology as these impact on international transactions. Prerequisites: IB:100 and BUS:104 or departmental permission and Reading Proficiency.

ITALIAN

ITAL:103 ELEMENTARY ITALIAN I 4
A beginning course presenting the basic sentence structure and vocabulary necessary to participate in elementary Italian conversation and to begin reading short Italian passages. Prerequisite: ENG:030 and RDG:100 and Reading Proficiency.

ITAL:104 ELEMENTARY ITALIAN II 4
A continuation of ITL:103. Students complete basic elements of Italian grammar, increase their vocabulary and gain added facility in speaking and reading Italian. Prerequisite: ITL: 103 and Reading Proficiency.

ITAL:205 INTERMEDIATE ITALIAN I 4
A continuation of ITL:104. Emphasis is on speaking Italian. A review of grammar assists the student in perfecting basic skills. A variety of up-to-date literacy and cultural selections are read and form the basis for classroom discussions. Prerequisite: ITL:104 and Reading Proficiency.

ITAL:206 INTERMEDIATE ITALIAN II 4
A continuation of ITL:205. Emphasis remains on the spoken language. A variety of literacy and cultural selections are read and discussed in class in Italian. Prerequisite: ITL:205 and Reading Proficiency.

JAPANESE

JPN:100 INTRODUCTION TO JAPANESE LANGUAGE 3
This course introduces students to the basics of the Japanese language with emphasis on oral communication using everyday conversation topics. The course also integrates discussion and exploration of various cultural topics into learning the language. Prerequisite: Reading Proficiency.

JPN:101 MODERN JAPANESE I 4
This course focuses on the construction and practice of fundamental vocabulary, basic sentence structures and social conventions necessary for simple interpersonal communication in Japanese. The emphasis is on the use of Japanese in everyday situations. Prerequisite: Reading Proficiency.

JPN:102 MODERN JAPANESE II 4
This course is a continuation of JPN:101. Students will further practice speaking and writing the language through the acquisition of new vocabulary and the learning of Japanese sentence structure. Students will also continue to learn cultural aspects necessary for effective interpersonal communication. Prerequisites: JPN:101 and Reading Proficiency.

LEGAL STUDIES

LGL:104 INTRODUCTION TO CIVIL TRIAL PROCEDURES 3
This course includes study of composition, location and jurisdiction of all courts, examination of all aspects of trial preparation and process, and some legal drafting and writing. Prerequisite: LGL:108 and Reading Proficiency.

LGL:106 COMPUTERS AND THE LAW 3
This course will help the Paralegal become familiar with the possible applications of the computers in law offices of different sizes and provide a general introduction to the varieties of hardware and software available and the creation of appropriate systems for a law office. Prerequisite: Reading Proficiency.

LGL:107 ALTERNATIVE DISPUTE RESOLUTION 1
Alternative dispute resolution is a method for using out-of-court alternative forums to resolve disputes. This course will examine the historical, statutory, and economic basis of ADR. Topics to be covered in both business and dissolution of marriage are: mediation, arbitration, mini trials, and summary jury trials. Prerequisite: LGL:108 and Reading Proficiency.

LGL:108 INTRODUCTION TO LAW FOR THE PARALEGAL 3
This course includes a general discourse on the training and purpose of Paralegals, examines the role of the law in modern society, the ethical and professional practice standards applicable to lawyers and paralegals, surveys the various fields of law and examines legal resources and the processes of legal research. Prerequisite: Reading Proficiency.

LGL:202 WILLS, TRUSTS AND PROBATE ADMINISTRATION 3
Study of the more common forms of wills and trusts and a survey of the fundamental principles of law applicable to each; a study of the organization and jurisdiction of a Missouri Probate Court; a detailed analysis of the administration of estates in Missouri Probate; a review of estate and inheritance taxes applicable to such estates. Prerequisite: LGL:108 and Reading Proficiency.

LGL:205 LAW OF REAL PROPERTY AND REAL ESTATE TRANSACTIONS 3
A study of the law of real property and in-depth survey of the more common types of real estate transaction and conveyances, such as deeds, contracts, leases, deeds of trust; drafting problems involving various of these instruments; and special research projects related to the subject matter; study of the system of recording and search of public documents. Prerequisite: LGL:108 and Reading Proficiency.

LGL:206 BUSINESS ORGANIZATION AND GOVERNMENT REGULATION 3
A study of the formation and operation of corporations, partnerships, business trusts and other business vehicles, including a survey of the fundamental principles of law applicable to each; special research projects related to the subject matter; a study of the impact and regulation of taxation and other forms of government regulation of business. Prerequisite: LGL:108 and Reading Proficiency.

LGL:211 TORTS 3
A study of the fundamental principles of the law of torts including special research assignments related to the subject matter, consideration of the techniques of investigation involved in the lawyer's handling of tort claims; a study of the various forms of pleadings involved in commencing such claims in court actions. Prerequisite: LGL:108 and Reading Proficiency.
LGL215 BANKRUPTCY, UNIFORM COMMERCIAL CODE, SALES AND CREDIT TRANSACTIONS 3
A study of the law of bankruptcy, sales, credit transactions, and a survey of the Uniform Commercial Code and its effect on the subject matter of this course. This course will include special drafting problems of the various legal documents and complying with the regulatory and statutory procedures. Prerequisites: BLW:101 and LGL:108 and Reading Proficiency.

LGL216 ADVANCED CIVIL TRIAL PROCEDURES 3
This course is designed as an advanced course for those students who have completed Introduction to Civil Trial Procedures. The focus will be a detailed examination of court rules pertaining to discovery, intervention, interpleading in trial procedures and appellate procedures. Prerequisites: LGL:104 and LGL:108 and Reading Proficiency.

LGL217 LEGAL RESEARCH 3
This course is designed as an introduction to the process of legal research, and an introduction to the connection between research and legal writing. The course involves several research projects to be completed both in the lab (Internet, CD-ROM and CALR) and in a law library. A moderate amount of legal writing will be integrated into the course assignments. This course is a prerequisite to LGL:210 Legal Writing. Both courses are required courses in the Paralegal Program. This course requires students to travel off campus to a local law library. Prerequisite: LGL:108 and Reading Proficiency.

LGL218 LEGAL WRITING 3
This course is designed as a continuation of LGL:217 Legal Research and is intended to expand on all principles involved in legal reasoning as it relates to legal analysis and the preparation of legal memo- randa. Students will be responsible for completing several writing projects which involve a legal research component. This course requires students to travel off campus to a local law library. Prerequisite: ENG:101 or equivalent, LGL:108 and LGL:217 and Reading Proficiency.

LGL219 PARALEGAL INTERNSHIP 3
Under the supervision of an attorney, the student will have the opportunity to participate in the daily operation of a law office, corporate legal department, or governmental law related office. Working as an intern for one hundred hours, the student will be exposed to all aspects of the management of a legal problem, including client contact, legal research, file preparation, drafting of legal documents, and all duties that might be performed by a paralegal in that situation. Prerequisite: Student must have completed nine credit hours in Paralegal courses and have the approval of the campus Program Coordinator and Reading Proficiency.

LGL220 CRIMINAL LAW AND PROCEDURE FOR THE PARALEGAL 1
This course will cover the substantive elements of major crimes, the requisite intent and defenses. The criminal procedures will be discussed and the role of the legal assistant (Paralegal) in the criminal process analyzed. Prerequisite: LGL:108 and Reading Proficiency.

LGL221 ADVANCED ONLINE-DATABASE LEGAL RESEARCH 1
Students will learn to use advanced query techniques using Westlaw and Lexis databases. Keyword, term search, and natural language searching skills will be taught. Assignment of complex legal problems will require students to understand and use the extensive library structures of these databases. Additional lab hours will be required. Prerequisites: LGL:108 and LGL:214 or LGL:217 and LGL:218 and Reading Proficiency.

LGL222 LEGAL RESEARCH ON THE INTERNET 1
This course will demonstrate the use of the Internet as a legal research tool. Using various browsers and search engines, students will learn basic Internet maneuvers. Students will learn the process of searching and retrieving information to build a file of relevant legal sites. Current legal issues on Internet use will be examined. Considerable time will be required on-line to meet the requirements of this class. Prerequisite: LGL:108 and Reading Proficiency.

LGL223 EVIDENCE 1
This course is the study of the gathering and admissibility of various types of evidence. The theories of relevance, materiality, hearsay, and competency that apply to all evidence will be explored in detail. Prerequisite: LGL:108 and Reading Proficiency.

LGL224 ENVIRONMENTAL LAW 1
This course will explore the issues of business and consumer generated pollution, hazardous, and toxic waste. The student will learn how the federal and state governments are trying to contain levels of pollution and to clean up hazardous waste sites and examine the major environmental protection laws applicable to businesses and individuals. Prerequisite: LGL:108 and Reading Proficiency.

LGL225 ADMINISTRATIVE LAW 1
An examination of the nature and scope of Administrative Law. The authority of administrative agencies, Administrative Procedures Act, rules and rule making, administrative hearings, and the role of the paralegal will be examined in this course. Prerequisite: LGL:108 and Reading Proficiency.

LGL226 LAW OFFICE ADMINISTRATION 1
A study of the function, management, and administration of the law office or legal department. It includes office environment, structures, personnel supervision, financial management, records management, and management theories. Prerequisite: LGL:108 and Reading Proficiency.

LGL227 REMEDIES 1
This course will cover legal and equitable remedies in property, contract and tort litigation and settlement, measurement of damages, injunctive relief, and specific performance. Prerequisite: LGL:108 and BLW:101 and Reading Proficiency.

LGL228 FAMILY LAW 3
This dissolution of marriage course is designed to familiarize the student with statute and case law regarding the dissolution of marriage action; to develop skills in regard to client interviews and counseling; to teach in detail the preparation of necessary forms and documentation to be filed in court and to review the discovery devices such as interrogatories and depositions and emphasize their utilization in dissolution of marriage cases. Prerequisite: LGL:108 and Reading Proficiency.

LGL229 ADVANCED COMPUTER UTILIZATION 3
This course will extend the legal assistant student's computer knowledge to the new and advanced areas of computer utilization in law offices and corporate legal departments. In addition, the course will explore the expanding area of legal administration including law office management, strategic planning, financial planning, productivity and billing, and collection techniques. An Advanced electronic legal research project using on line databases will be required. Prerequisite: LGL:106 and LGL:108 and Reading Proficiency.

LGL230 EMPLOYMENT LAW 3
The study of the employer and employee relationship and the laws governing the employment agreement. This course will examine the specific areas of employment discrimination, Worker's Compensation, and regulation of union activity. Prerequisite: LGL:108 and Reading Proficiency.

LGL231 CD-ROM LEGAL RESEARCH 1
This course will demonstrate the use of CD-ROMs as a legal research tool. Using CD-ROMs from West, Lawyer's Cooperative Publishing, and other legal publishers, students will learn the basic skills required for searching these large databases. Students will be expected to develop an organized research process that locates appropriate information relative to the assigned topic. Considerable time will be required in the campus computer labs to meet the requirements for this course. Prerequisite: LGL:108 and Reading Proficiency.
LGL:232 CONTRACTS
A study of the types and kinds of contracts and an in-depth analysis of the basic elements of contract law. The proper form and manner of entering into a lawful contract will be analyzed. Prerequisite: Reading Proficiency.

LGL:233 BANKRUPTCY
A study of the law of bankruptcy and the filing procedures. The elements of bankruptcy and completion of the debtor forms will be emphasized. Prerequisites: LGL:108 or BLW:101 or LGL:232 and Reading Proficiency.

LGL:234 UNIFORM COMMERCIAL CODE (UCC)
A survey of the UCC which governs all commercial transactions involving the sale and lease of personal property, negotiable instruments, bank deposits and secured transactions. Prerequisites: LGL:108 or BLW:101 or LGL:232 and Reading Proficiency.

LIB:101 INTRODUCTION TO LIBRARY AND ONLINE RESEARCH
This course offers students instruction in using library resources, including the Internet, online databases, and the library catalog. Through a combination of hands-on practice and lectures, students will learn to locate, evaluate, and manage information efficiently and effectively. Prerequisite: Reading Proficiency.

MANAGEMENT

MGT:101 INTRODUCTION TO SUPERVISION
This course is designed to provide the student with the latest leadership skills to function as a supervisor in today's modern organizations. Special emphasis is placed on coaching, motivation, positive reinforcement, achieving high productivity and the latest court decisions and laws that affect management decisions. This course will give the student confidence and skills needed to succeed in today's workplace. Prerequisite: Reading Proficiency.

MGT:104 INTRODUCTION TO SUPERMARKET MANAGEMENT
The primary objectives of the course are to give the student a general survey of the supermarket industry and develop an understanding of the dimension and responsibilities of contemporary supermarket management. Emphasis will also be placed upon the development of skills and abilities to function effectively in a management position in a supermarket. Prerequisite: Reading Proficiency.

MGT:106 HUMAN RESOURCES MANAGEMENT
The emphasis is on the development of knowledge, skills, attitudes of managers, supervisors and employees in resolving human problems and in developing effective employee motivation and productivity in both union and nonunion settings. Topics include: sexual harassment, EEO, ethics, cultural diversity, grievance and conflict resolution, legal issues, compensation and benefits, turnover, employment and team building. Prerequisite: Reading Proficiency.

MGT:107 LABOR RELATIONS
This introductory course reviews current U.S. labor-management relationships and discusses the conditions, events and legislation which have brought them about. It explores the fundamentals of negotiating the labor agreement and its day-to-day administration. Prerequisite: Reading Proficiency.

MGT:109 BUSINESS ORGANIZATIONAL BEHAVIOR AND DYNAMICS
The study of organizational behavior and the interplay of individual differences in industrial settings. The course will relate the study of people in organizations to a frame-work designed to promote understanding of the individual by the supervisor. Prerequisite: Reading Proficiency.

MGT:110 SAFETY MANAGEMENT
This course presents the principles and concepts of safety organization and management and acquaints the supervisor with his or her responsibilities in accident prevention. Prerequisite: Reading Proficiency.

MGT:118 PRINCIPLES OF CREDIT MANAGEMENT
An analysis of the theoretical and practical aspects of consumer and commercial credit management. Topics include: credit in the economy, credit and collection policies; legal issues; international credit; and measuring the efficiency of credit decisions. Prerequisite: Reading Proficiency.

MGT:120 MANAGERIAL LEADERSHIP
This course introduces a balanced approach to leadership: theory, critical thinking and development of skills. The student will apply leadership theories and concepts to develop critical thinking skills, differentiate between learning about leadership and learning to be a leader in the acquisition of skill. Prerequisite: Reading Proficiency.

MGT:130 INTRODUCTION TO SUPPLY CHAIN MANAGEMENT
An introductory study of the supply chain management system and the elements that make up its integrated and interdependent whole. The course emphasizes supply chain management is a system of multiple firms working together in partnership for the purpose of developing and coordinating engineered systems for procurement, handling and control of materials and products from acquisition at the vendor's plants through processing, to the delivery of final product to the domestic and global customers. Prerequisite: Reading Proficiency.

MGT:140 PROJECT MANAGEMENT
This course is designed for students, working professionals, volunteers, and personal projects. Project Management introduces theory to application and implementation of project through case studies and project simulation. Application of Microsoft Project software supports the process of defining, organizing, tracking, and communicating information about a project. Prerequisite: Reading Proficiency.

MGT:201 CASE STUDIES IN SUPERVISION
This course is comprised of actual cases in supervisory management and allows the student to conceptualize alternatives and possible solutions to real cases on topics like: problem employees, training, compensation and benefits, absenteeism, sexual harassment, employee rights and responsibilities, safety, EEO, and conflict resolution. Prerequisite: MGT:101 and Reading Proficiency.

MGT:204 BUSINESS ORGANIZATION AND MANAGEMENT
A study of basic concepts, functions, and the management process of planning, organization, staffing, directions, and control as they relate to modern business operations and problems. Prerequisite: BUS:104 or departmental approval and Reading Proficiency.

MGT:205 PURCHASING MANAGEMENT
The course is designed to acquaint the student with the principles, concepts, and techniques of purchasing management. Emphasis would be placed on the organization, development, and evaluation of the purchasing function; the methods and procedures utilized; understanding of the legal and ethical considerations; and comparison of purchasing practices for private companies, institutions, and government. Prerequisite: Reading Proficiency.

MGT:219 FINANCIAL ANALYSIS FOR CREDIT MANAGEMENT
Evaluation and case study application of the financial analysis tools necessary for commercial credit management decisions. Prerequisite: MGT:118 and ACC:110 and Reading Proficiency.
MGT:220 LAW AND BANKING: PRINCIPLES 2
A banker's guide to law and legal issues with emphasis on the UniformCommercial Code. Includes summaries of law pertaining to contracts, real estate and bankruptcy, as well as the legal implications of consumer lending. A glossary of legal terminology is also included. Prerequisite: Reading Proficiency.

MGT:221 COMMERCIAL LENDING 2
This course is a practical approach to understanding the lending environment within a bank. Commercial lending is a study of lending policies, processing loan applications, analyzing applicants' creditworthiness, interest rate structures and other charges, and portfolio management, including collection of problem accounts. Prerequisite: BUS:115 and Reading Proficiency.

MGT:222 CONSUMER LENDING 2
Consumer Lending provides an up-to-date, insider's view of consumer lending. This course offers essential information about the maze of regulations that govern credit practices, and reviews loan processing, cross selling, and collections. Prerequisite: BUS:115.

MGT:224 E-COMMERCE MANAGEMENT 3
This course looks at contemporary management issues involving a round the deployment and use of electronic commerce, presentation, networking, and interactive technologies. Topics are contemporary in nature and include: career opportunities and staffing issues; making the transition from traditional to digital or "virtual" modes of operations; intellectual property/legal issues; and geo-political ramifications. Prerequisite: Reading Proficiency.

MGT:230 LOGISTICS OPERATIONS 3
This course focuses on the principles of logistics operations in the supply chain as they apply to materials handling equipment, warehousing and packaging. Specifically, emphasis will be placed on techniques and strategies for analyzing logistics systems challenges and opportunities will be stressed, using student participation, case studies, multi-media presentations and plant tours. Prerequisite: MGT:130 and Reading Proficiency.

MGT:231 PRODUCTION PLANNING AND INVENTORY CONTROL 3
This course is a study of efficient and effective utilization of manufacturing resources. Course topics will include forecasting, inventory management, aggregate planning, MRP, capacity planning and control, job shop production activity, total quality management, theory of constraints and technological innovations. Prerequisites: MGT:130 and BUS:201 and Reading Proficiency.

MGT:232 TRANSPORTATION LOGISTICS MANAGEMENT 3
This course is a study of various facets of transportation management and its relationship to the supply chain. The emphasis is on management's utilization of transportation mode selection, rate negotiations, capital equipment commitments, private operations, special transport services, and loss/damage claims procedures. Prerequisite: MGT:130 and Reading Proficiency.

MGT:239 ADVANCED SUPPLY CHAIN MANAGEMENT 3
This is a capstone course designed to focus on the whole enterprise system as a profit center and computer-simulated models for data development, input analysis and implementation of supply chain systems. This course identifies logistics operations, production, inventory, transportation, purchasing and information as the key drivers of supply chain performance. Prerequisites: MGT:230, MGT:231, MGT:232, MGT:205 and Reading Proficiency.

MARKETING

MKT:101 ADVERTISING THEORY 3
A general survey of the values, purposes and techniques of advertising in its many forms, including all of the major and minor media. The managerial viewpoint will be emphasized in the analysis. Prerequisite: Reading Proficiency.

MKT:104 PRINCIPLES OF SELLING 3
A course in creative, strategic, consultative and adaptive selling techniques applied to various kinds of products and services sold into and through industrial, trade, and retail markets. Emphasis on clear and adequate effectiveness of selling, utilizing presentation skills and a high degree of business ethics. Prerequisite: Reading Proficiency.

MKT:203 PRINCIPLES OF MARKETING 3
This course covers the fundamental principles and functions of marketing. It describes the institutions, processes, and problems involved in transferring goods and services from producers to consumers. Prerequisite: BUS:104 and Reading Proficiency.

MKT:215 MARKETING FINANCIAL SERVICES 2
This course is designed for the financial services employee interested in ways to develop new business and retain current customers. The marketing concept will be the core of the course, but emphasis will be placed on practical information rather than on marketing theory. Topics include advertising and promotion, marketing research, pricing of products, sale planning, alternative ways to deliver financial services, and public relations. Prerequisite: BUS:115 and Reading Proficiency.

MKT:216 NEW MEDIA IN BUSINESS AND MARKETING 3
An introductory course examining the use of technology in business transactions and how traditional business practices are evolving with the growth of networking technology. The course involves the extensive use of computers and Internet sources. Prerequisite: IS:103 and MKT:203 and Reading Proficiency.

MKT:217 EVALUATING NEW MEDIA APPLICATIONS IN MARKETING 1
An in-depth look at samples of electronic business and marketing programs, commercial web sites and identification of hardware and software used to create and support these types of business applications. Students prepare most hands-on computer assignments in hours other than class time. Prerequisite: MKT:216 and Reading Proficiency.

MKT:218 MARKETING WITH A WEB SITE 1
Design and develop a sample commercial web site. Survey of electronic applications, direct marketing and advertising used for development of commercial web sites. Discussion of security, copyright and financial management issues used in electronic commerce transactions. Students prepare most hands-on computer assignments in hours other than class time. Prerequisite: MKT:216 and Reading Proficiency.

MKT:219 E-COMMERCE: STRATEGIES 3
This course examines the strategic operating theories behind using electronic commerce, presentation, networking, and interactive technologies to gain a competitive advantage in the marketplace. Topics are contemporary in nature and include: the Internet; Electronic Data Interchange (EDI); rapid product prototyping; data-mining and warehousing; digital presentation/capture technologies; and customer service relationship management. Prerequisite: Reading Proficiency.

MKT:220 E-COMMERCE METHODOLOGIES 3
Students will explore how businesses and organizations use electronic commerce, presentation, networking, and interactive technologies to differentiate themselves from their competitors and to enhance their marketing, and human resource efforts. Within this framework, the student will have an opportunity to develop a hands-on project, or to further study an area of his/her choice. Prerequisite: Reading Proficiency.
MASS COMMUNICATIONS

MCM:101 INTRODUCTION TO MASS COMMUNICATIONS 3
This general course examines the nature and influence of mass media in our society. Students will analyze the impact media has throughout the world. Topics include mass media foundations, media’s role in culture, ethics, influence on society, media methods, controls, gatekeeping, and world impact. Prerequisite: Reading Proficiency.

MCM:102 MEDIA LITERACY 3
This course focuses on approaches through which students can develop a sensitivity to media messages, as well as enhance their appreciation of media programming. This course devotes attention to the process and impact of media on the individual and society. The class will analyze applied media formats, including: journalism; advertising; and political communications. (Personal media, mass media, and telecommunication.) Prerequisite: Reading Proficiency.

MCM:110 JOURNALISM I: WRITING AND REPORTING 3
Contemporary newspaper writing and reporting techniques will be covered in this introductory course through discussions, readings, and practical exercises. The concepts of news coverage in the American press will be emphasized. Students are required to write news stories on a regular basis. Prerequisite: ENG:100 or ENG:101 or permission of instructor and Reading Proficiency.

MCM:111 JOURNALISM II: EDITING AND DESIGN 3
By studying the functions of the news editor and the copy editor, the student is exposed to the practical and theoretical techniques of editing and designing contemporary newspapers, magazines, and other print media. Students are required to write, rewrite, and edit copy on a regular basis. Prerequisite: ENG:100 or ENG:101 and MCM:110 or permission of the instructor and Reading Proficiency.

MCM:112 FEATURE WRITING 3
Students will be exposed to the professional and marketing possibilities of feature writing. They will learn the theories and techniques of writing newspaper and magazine features. Students are required to write on a regular basis. Prerequisite: ENG:100 or ENG:101 or permission of the instructor and Reading Proficiency.

MCM:113 APPLIED JOURNALISM 3
Students are offered the opportunity to gain practical experience in journalistic concepts and techniques through work on available campus publications. Students are required to write and edit copy on a regular basis. Prerequisite: ENG:100 or ENG:101 and MCM:110 or permission of the instructor and Reading Proficiency.

MCM:114 PHOTOJOURNALISM 3
Students will study the professional techniques of photojournalism and history of news photography both for photographers and non-photographers. Prerequisite: ART:165 or permission of the instructor and Reading Proficiency.

MCM:115 ACTING FOR THE CAMERA 3
This course includes the following: (1) exploration of the aesthetics and principles of acting for the camera; (2) analysis of diverse acting styles and outstanding performances in film and television; and (3) acting exercises for the camera. Some acting exercises will be videotaped and edited for analysis. Prerequisite: Reading Proficiency.

MCM:120 INTRODUCTION TO BROADCASTING 3
This course examines the background and operation of the broadcasting industry, including history, regulations, social and economic settings and the organization of radio and television stations. New technologies will also be a focus of this course. Some hands-on experience might be included. Prerequisite: Reading Proficiency.

MCM:121 TELEVISION PRODUCTION 3
The course instructs the student in the effective and creative use of television equipment also providing students with practical experience in technical areas including lighting, graphics, and field production. Students will cooperate in producing projects such as a newscast, advertisement, interview, or investigative feature. Prerequisite: Reading Proficiency.

MCM:122 APPLIED BROADCASTING 3
This is a skills-content course in which students will develop skills in broadcasting principles and practice. It may include the campus radio or television facilities. Prerequisite: Reading Proficiency.

MCM:123 BROADCAST JOURNALISM 3
Students in this course study the principles and skills of radio and television journalism, including work in the news operations of the campus radio or television facilities. Prerequisite: ENG:100 or ENG:101 or permission of the instructor and Reading Proficiency.

MCM:124 RADIO PRODUCTION 3
The primary objectives of this course are to introduce students to basic professional concepts of radio broadcast theory and techniques and to provide students with hands-on experience. Some additional time in the lab or studio may be required. Prerequisite: Reading Proficiency.

MCM:125 SCRIPTWRITING FOR TV AND FILM 3
This course is designed to provide practical instruction in writing short scripts for TV and film for the beginning student and the student interested in the creative aspects of scriptwriting. Basic terminology and script formats will be presented as well as analysis of a variety of scripts. Prerequisite: ENG:100 or ENG:101 and Reading Proficiency.

MCM:126 VIDEO PRODUCTION- FIELD 3
Students will learn video skills in pre-production (concept development), production (camera shooting) and post-production (editing). On-location, single camera shooting will be emphasized. Class includes lectures, discussions, practical applications and evaluations. Prerequisite: Reading Proficiency.

MCM:127 VIDEO PRODUCTION- STUDIO 3
This course instructs the student in the effective and creative use of the television studio. It provides practical experience in nontechnical areas like scripting and program development and technical areas including lighting, audio, graphics and camera operation. Class includes lectures, discussions, practical applications and evaluations. Prerequisite: Reading Proficiency.

MCM:130 FILM APPRECIATION 3
Students study a variety of films: contemporary and classic, narrative and nonnarrative, animated and live action, American and international, short and feature-length. Topics include: camera movement, composition, sound, editing, lighting, special effects, and social issues such as violence and stereotyping. Class includes lectures, discussions, written analysis, and in-class screenings. Prerequisite: Reading Proficiency.

MCM:131 HISTORY OF FILM 3
Students study film history from the magic lantern to contemporary films through technical, artistic, sociological, and economic factors in fiction and nonfiction, feature-length and short works. Topics include various styles and movements as well as issues such as violence and politics. Class includes lectures, discussion, writing, and in-class screenings. Prerequisite: Reading Proficiency.

MCM:132 MAJOR THEMES IN FILM 3
Each semester this course focuses on one film theme or type. Examples include Academy Award winning films, animation, comedy, musicals, and women in film. Classes include lectures, discussion, written analysis, and in-class screenings of films illustrating the semesters’ topic. This course may be retaken for credit with different topics. Prerequisite: Reading Proficiency.
MCM:133 FILM AND PEOPLE: ENJOYING FOREIGN FILM 3
Students study foreign films which illustrate the art of cinema and provide insight into the cultures they represent. Topics considered include daily life, politics, peace and war, love, and interpersonal conflict. Class includes lectures, discussion, written analysis, and in-class screenings. Pre requisite: Reading Proficiency.

MCM:134 FILMMAKING 3
Using super-8 technology, students plan, shoot, edit, and mix sound for short works. All equipment is provided, including cameras, projectors, and editing stations, both digital (Avid) and film. Students pay for their film and for processing. Class includes lectures, discussions, and screenings. Some time in the editing lab is required. Pre requisite: Reading Proficiency.

MCM:135 COMMUNICATION AND DESIGN FOR THE WWW I 3
Students will learn to use the elements of graphic design to produce Web pages that effectively deliver art and information for business/organizational communications. Pre requisite: ART:133, ART:131 or ART:227 and Reading Proficiency.

MCM:136 INTRODUCTION TO MULTIMEDIA 2
Students will survey the current field of computer hosted multimedia with an emphasis on the use of multimedia corporate training, business presentations, classroom instruction and supplemental instruction, advertising, and the World Wide Web. Pre requisite: IS: 103 or concurrent enrollment in IS: 103 or permission of instructor and Reading Proficiency.

MCM:137 MULTIMEDIA PRODUCTION 4
Students will work with digital type and text, graphics, photographs, video, and sound using current “authoring” software to produce computer hosted multimedia. In the process students will learn to use the various hardware and software tools required. Attention will be devoted to various multimedia delivery options including compact disc and the World Wide Web. Pre requisite: MCM:136 or permission of instructor and Reading Proficiency.

MCM:140 INTRODUCTION TO ADVERTISING 3
Students learn about advertising theories and techniques by studying history, functions, the importance of marketing, behavioral science, and aesthetics. Topics include ad agency organization, campaign planning, and media placement and production (radio, television, print, point of purchase). This will be accomplished through lectures, discussions, and campaign analysis. Pre requisite: Reading Proficiency.

MCM:141 PUBLIC RELATIONS 3
This introductory course focuses on the work of the public relations practitioner as communications specialist. Topics include the techniques of effective public relations and the demands of the field. Students will explore the ways segments of the public form opinions and the ways public relations should influence that attitude building. Students also write press releases and examine field/case studies. Pre requisite: Reading Proficiency.

MCM:142 APPLIED ADVERTISING 3
This course will further the student’s knowledge of advertising practices, campaigns, strategies, and production. Along with lectures, discussions, and other activities, this course includes scripting, storyboarding and executing radio, television and/or print ads. Class involves lectures, discussions, and video production activities. Pre requisite: Reading Proficiency.

MCM:201 MEDIA INTERNSHIP I 3
This course allows students to gain practical experience through an arrangement with selected media outlets. Students must apply for the internship through the Communication Department for entrance into the course. Pre requisite: Reading Proficiency.

MCM:202 MEDIA INTERNSHIP II 3
This course allows students to continue gaining practical experience through an arrangement with selected media outlets. Students must apply for the internship through the Communications Department for entrance into the course. Pre requisite: Reading Proficiency.

MCM:209 BLACKS AND THE WORLD OF CINEMA 3
This course examines the historical and social evolution of Blacks in the film industry. It traces the impact of Afro-Americans as actors, technicians, directors, producers, and audience of short and feature-length films. Pre requisite: Reading Proficiency.

MCM:210 PUBLIC AFFAIRS REPORTING 3
Through lectures, research and practical experience, students are exposed to more extensive news gathering and advanced writing techniques. Pre requisite: ENG:100 or ENG:101 and MCM:110 or permission of instructor and Reading Proficiency.

MCM:211 APPLIED PUBLIC RELATIONS 3
Applied Public Relations provides for the integration and application of public relations theories and practices studied in the prerequisite public relations course. Through further study and practical application the student will develop a greater understanding of the purpose, function and importance of effective public relations activity in today’s increasingly complex society. Pre requisite: MCM:141 and Reading Proficiency.

MCM:212 SPECIALIZED PUBLICATION PRODUCTION 3
This course allows students to continue gaining practical experience through an arrangement with selected media outlets. Students must apply for the internship through the Communications Department for entrance into the course. Pre requisite: Reading Proficiency.

MCM:213 ADVANCED VIDEO PRODUCTION 3
Students will develop their skills in preproduction, production and post-production video work, both multi-camera studio and on location. The course will include concept development, scripting, storyboarding, shooting and editing video projects. Class involves lectures, discussions, and video production activities. Pre requisite: MCM:121 or MCM:126 or permission of instructor and Reading Proficiency.

MCM:214 MAJOR FILM DIRECTORS 3
Students study a major director’s landmark films. Topics include consideration of the selected director’s style, themes, cinematography, stars, and social as well as other artistic factors that have made this individual influential. Class includes lectures, discussion, written analysis, and in-class screenings of films. Pre requisite: Reading Proficiency.

MCM:215 PUBLICATIONS WRITING 3
This course focuses on the specialized and distinctive writing skills employed in technical and corporate publications. Students will master the basic skills needed to write simple reports, product descriptions and price lists. In the corporate area, students will research and write news and feature stories for newsletters, as well as press releases and brochures. All writing requires basic word processing skills. Pre requisite: ENG:102 or ENG:103 or equivalent work experience and Reading Proficiency.

MCM:216 ADVANCED FILMMAKING 3
Students develop filmmaking expertise through super-8, 16mm, and digital productions. Topics include: concept development, scripting, storyboarding, composition, lighting, sound, editing both as film and on nonlinear digital. Avid stations, special effects, and film exhibition. All equipment is provided; students pay for film and processing. Class includes lectures, discussions, and screenings. Pre requisite: MCM:134 or permission of instructor and Reading Proficiency.
MCM:219  MULTIMEDIA APPLICATIONS  1 - 3
This course covers selected topics in multimedia production. Students use state-of-the-art equipment to produce beginning, intermediate or advanced level projects in the area emphasized. Topics may include, but are not limited to, nonlinear video editing, video animation, digital audio production, etc. Course may be retaken for credit with different topics. Prerequisite: Reading Proficiency.

MATHEMATICS

MTH:004  HANDS-ON ARITHMETIC WORKSHOP  3
This course is designed to help students experiencing difficulty with mathematics in general and arithmetic in particular. Students progress at their own pace using manipulatives in a guided discovery mode to gain an understanding of numbers, arithmetic operations (on whole numbers, integers, fractions, decimals, and involving percents) and metric measurement. Prerequisites: RDG:020 and ENG:020.

MTH:020  PRE ALGEBRA  3
This course is for students who need to review the basic fundamentals of mathematics. Topics include operations on whole numbers, fractions, decimals, percents, signed numbers, word problem applications and an introduction to algebra.

MTH:025  HANDS-ON ALGEBRA WORKSHOP  3
The purpose of this course is to help students who have experienced great difficulty with mathematics in general and algebra in particular. Working individually and in small groups, students use various mathematics manipulatives in a guided discovery mode to explore algebraic concepts in order to gain an understanding of integers, linear equations, polynomials, graphing, and functions. In this hands-on lab course, students proceed at their own pace. This course does not replace Elementary Algebra. This course is also valuable for teachers who want to teach mathematics with a goal of preparing students for algebra. Prerequisites: MTH:020 or MTH:011 with grade of “C” or better, or satisfactory score on the placement test; An appropriate score in Reading and English on the placement test.

MTH:027  BRIDGES TO ELEMENTARY ALGEBRA  1
This course is designed for students who qualify for Elementary Algebra. Completion of this course will greatly enhance a student's chance for success in Elementary Algebra. This course offers a brief review of operations on whole numbers, fractions, decimals and percents. Also included is an intensive review of applications of ratios, geometry, signed numbers, like terms, simplifying algebraic expressions and solving basic equations. Prerequisites: Placement into MTH:030 or completion of MTH:020 with a grade of “C” or better.

MTH:030  ELEMENTARY ALGEBRA  3
This course is for students who have not taken a full year of algebra in high school or wish to review algebra. Topics include operations on whole numbers, operations on polynomials, operations on rational expressions, and solving equations. Prerequisites: MTH:001 or MTH:020 with grade of “C” or better, or satisfactory score on placement test.

MTH:040  ELEMENTARY ALGEBRA AND BASIC MATH  5
This course combines the topics of Basic Mathematics (operations on whole numbers, fractions, decimals, percents, signed numbers, and word problem applications) with those of Elementary Algebra (operations on polynomials, operations on rational expressions, and solving equations) and is intended for students who need to review the materials in these two courses. Prerequisite: Satisfactory score on placement test.

MTH:108  ELEMENTARY APPLIED MATHEMATICS  3
This course will include a review of fractions, decimals and percents. Other topics included will be ratio, proportion, measurement, metrics, powers, roots, simple equations, estimation, graphs, and applications relevant to many Associate in Applied Science programs. (NOTE: Not all students will study the same applications). Prerequisite: MTH:020 with a grade of “C” or better, or satisfactory score on placement test and Reading Proficiency.

MTH:123  INTRODUCTION TO THE TEXAS INSTRUMENTS GRAPHING CALCULATOR  1
This course is designed for students who will be using a graphing calculator in their math and science course work. Students will be introduced to the use of the TI-83 plus graphing calculator. Students will learn to perform basic computations, graph functions, create tables and use stat plots to graph data. Prerequisites: Placement into MTH:140 or completion of MTH:030 with a grade of “C” or better and Reading Proficiency.

MTH:124  TECHNICAL MATHEMATICS I  3
This course includes operations on algebraic expressions, solving linear equations, the Cartesian coordinate system in two dimensions, slope of a line, and graphing techniques. Prerequisite: MTH:007 or MTH:030 with a grade of “C” or better, or satisfactory score on placement test and Reading Proficiency.

MTH:134  TECHNICAL MATHEMATICS II  3
The course content includes complex numbers, solution of quadratic equations, and a study of exponential logarithmic and trigonometric functions. Vectors in the Cartesian plane and applications are also among the topics included. Prerequisite: MTH:124 with a grade of “C” or better and Reading Proficiency.

MTH:137  BRIDGES TO INTERMEDIATE ALGEBRA  1
This course is designed for students who qualify for Intermediate Algebra. Completion of this course will greatly enhance a student's chance for success in Intermediate Algebra. This course offers a brief review of linear equations and inequalities. Also included is an intensive review of exponential properties, polynomials, factoring, rational expressions, the rectangular coordinate system and basic linear graphs. Prerequisites: Placement into MTH:140 or MTH:030 with a grade of “C” or better and Reading Proficiency.

MTH:140  INTERMEDIATE ALGEBRA  3
This course will provide the transition from elementary algebra into college algebra. Operations on rational expressions, operations on radicals, solving quadratic equations, and the rectangular coordinate system are among the topics covered. Prerequisite: MTH:030 with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:144  TECHNICAL ALGEBRA AND TRIGONOMETRY  5
This course includes basic algebraic skills, complex numbers, quadratic equations, linear systems, and a study of the trigonometric functions. Applications for engineering technology students are included in the course content. Prerequisite: MTH:140 with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:154  TECHNICAL ANALYTIC GEOMETRY AND CALCULUS  4
This course is designed primarily for engineering technology students. Among the topics included are plane analytic geometry, limits, derivatives, integration, and applications. Prerequisite: MTH:144 with a grade of “C” or better and Reading Proficiency.

MTH:155  SURVEY OF COLLEGE MATHEMATICS  4
This course contains topics from the development of the structure of the real number system and college algebra, and selected topics from geometry, probability statistics, or mathematical modeling, with emphasis on applications of mathematics. Prerequisite: MTH:140 with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:157  BRIDGES TO COLLEGE ALGEBRA  1
This course is designed for students who qualify for College Algebra. Completion of this course will greatly enhance a student's chance for success in College Algebra. This course offers a brief review of rational expressions, exponents, roots and radicals, inequalities, and systems of equations. Also included is an intensive review of functions and function notation, including linear and non-linear functions. Prerequisites: (Placement into MTH:160A or MTH:160B or MTH:160C) or completion of MTH:140 with a grade of “C” or better and Reading Proficiency.
MTH:160A COLLEGE ALGEBRA WITH TECHNOLOGY
Computers or graphing calculators will be used to study: theory of equations; systems of equations; functions and graphs including polynomial, rational, exponential, and logarithmic; matrices; sequences and series; binomial theorem. Applications will include linear and non-linear regression. Credit will be granted for only one of the following: MTH:160, MTH:160A, MTH:160B, MTH:160C, MTH:185. Prerequisites: MTH:140 with grade of "C" or better, or satisfactory score on placement test and Reading Proficiency.

MTH:160B COLLEGE ALGEBRA/NON-TECH MAJORS
Computers or graphing calculators will be used to study: theory of equations; systems of equations; functions and graphs including polynomial, rational, exponential, and logarithmic; matrices; sequences and series; binomial theorem. Applications will be chosen primarily from non-technical content areas. Credit will be granted for only one of the following: MTH:160, MTH:160A, MTH:160B, MTH:160C, MTH:185. Prerequisites: MTH:140 with grades of "C" or better, or satisfactory score on placement test and Reading Proficiency and Reading Proficiency.

MTH:160 COLLEGE ALGEBRA
Topics included are: theory of equations; systems of equations; functions and graphs including polynomial, rational, exponential, and logarithmic; matrices; sequences and series; binomial theorem. Applications will be primarily from science and business. Credit will be granted for only one of the following: MTH:160, MTH:160A, MTH:160B, MTH:160C, MTH:185. Prerequisites: MTH:140 with grade of "C" or better, or satisfactory score on placement test and Reading Proficiency.

MTH:165 STRUCTURES OF MATHEMATICAL SYSTEMS I
Introduction to problem solving and logic. A study of the development and construction of mathematical systems, including whole numbers, integers, and rational numbers. Suggested for students planning to transfer into early childhood education, elementary education, or special education programs. Prerequisite: MTH:160 or MTH:160A or MTH:160B or MTH:160C with a grade of "C" or better, or satisfactory score on placement test and Reading Proficiency.

MTH:166 STRUCTURES OF MATHEMATICAL SYSTEMS II
Continuation of MTH:165. Includes an intuitive study of elementary geometry, the deductive theory of geometry, graphing, probability and statistics, with applications in the area of elementary education. Suggested for students planning to transfer into early childhood, elementary education, or special education programs. Prerequisite: MTH:165 with a grade of "C" or better and Reading Proficiency.

MTH:170 TRIGONOMETRY
This course uses an analytic approach to the definitions and graphs of the functions of an angle. It includes formulas and identities, trigonometric functions, inverse functions, and radian measure. Prerequisite: MTH:160 or MTH:160A or MTH:160B or MTH:160C with grade of "C" or better, or satisfactory score on placement test. Note: Credit will not be granted for both MTH:170 and MTH:185. Reading Proficiency.

MTH:177 FINITE MATHEMATICS
This course includes a study of matrices, linear programming, and probability, along with several applications. Prerequisite: MTH:160 or MTH:160A or MTH:160B or MTH:160C with grades of "C" or better and Reading Proficiency.

MTH:185 PRECALCULUS
A unified study of college algebra and trigonometry. Emphasis is placed on the development of algebraic and trigonometric concepts. Prerequisite: MTH:140 with a grade of "C" or better or satisfactory score on placement test and Reading Proficiency. Note: Students will be granted credit for either MTH:185 or MTH:160 and MTH:170.

MTH:186 SURVEY OF CALCULUS
An introduction to plane analytic geometry and the basic techniques of the differential and integral calculus. Applications are business oriented. Prerequisite: MTH:160 or MTH:160A or MTH:160B or MTH:160C all with grades of "C" or better and Reading Proficiency.

MTH:201 ANALYTIC GEOMETRY AND CALCULUS I
Topics included are limits and continuity of functions of a single variable, derivatives and antiderivatives of algebraic functions and trigonometric functions, and applications. Prerequisite: MTH:185 or (MTH:160 or MTH:160A or MTH:160B or MTH:160C and MTH:170) with grades of "C" or better or satisfactory score on placement test and Reading Proficiency.

MTH:212 DISCRETE MATHEMATICS
Students will learn the important topics in discrete mathematics which are particularly relevant to computer science. Topics include, but are not limited to, logic, elementary number theory, modular arithmetic, methods of proof, sets, probability and combinatorics, recurrence relations, algorithmic efficiency, elementary graph theory, and trees.

MTH:215 LINEAR ALGEBRA
Topics include systems of linear equations, properties of matrices and determinants, vector spaces, linear transformations, inner products, and eigenvalues, as well as selected applications. Prerequisite: MTH:210 with a grade of "C" or better and Reading Proficiency.

MTH:220 ANALYTIC GEOMETRY AND CALCULUS II
Differentiation and integration of transcendental functions, techniques of integration, improper integrals, parametric equations, polar coordinates, and infinite and power series are among the topics covered. Prerequisite: MTH:210 with a grade of "C" or better and Reading Proficiency.

MTH:230 ANALYTIC GEOMETRY AND CALCULUS III
Solid analytic geometry, vectors in two and three dimensions, differential calculus of functions of more than one variable, partial derivatives, directional derivatives, gradients, multiple integration, and an introduction to the calculus of vector fields. Prerequisite: MTH:220 with a grade of "C" or better and Reading Proficiency.

MTH:240 DIFFERENTIAL EQUATIONS
This course introduces methods of solving ordinary differential equations including Laplace transforms and differential operators with applications. Prerequisite: MTH:230 with a grade of "C" or better and Reading Proficiency.

MECHANICAL ENGINEERING TECHNOLOGY
ME-101 WELDING TECHNOLOGY
The major objective of this course is to provide a comprehensive overview of current welding practices. A variety of welding processes will be covered including shielded metal-arc, gas shielded-arc, resistance and other special techniques intended specifically for welding sophisticated metals. Prerequisite: Reading Proficiency.

ME-102 WELDING INSPECTION
The major objective of this course is to provide the fundamental principles of the actual welding operation and subjects related to the process. Included are such factors as the basic properties of welds and base metal, testing methods, and interpretation of drawings and specifications. Inspection of assemblies fabricated by welders involves a great many factors that cannot be outlined in a code or specification. Prerequisite: Reading Proficiency.

ME-103 MECHANICAL MAINTENANCE
Identifies and explains the various types and functions of mechanical power transmission components such as gears, couplings, chains, belts, bearings, and clutches. Manufacturer handbooks will be utilized to reinforce the proper installation, inspection, and maintenance specifications. In addition, pumps and compressors will be emphasized including repair and preventive maintenance. Prerequisite: MTH:007 or MTH:030 and Reading Proficiency.
ME:104 PLUMBING DESIGN I 3
This course will cover the following items: contract documents, regulatory agencies, plumbing materials, piping methods, pipe insulation, plumbing fixtures, architectural/structural problems, hydraulic principles, and sizing plumbing systems. Prerequisite: Reading Proficiency.

ME:105 PLUMBING DESIGN II 3
This course will cover the following: basic graphics, supply systems, domestic hot water systems, water treatment, storm water systems, site utilities, waste systems, pool systems, and pump systems. Prerequisite: ME: 101 and Reading Proficiency.

ME:106 PLUMBING DESIGN III 3
This course will cover the following: food service systems, hospital plumbing, public building plumbing, irrigation systems, gas systems, compressed air systems, vacuum systems, cost estimating and specifications. Prerequisite: ME: 102 and Reading Proficiency.

ME:108 PRINCIPLES OF PLUMBING/PIPEFITTING 3
The principles of water supplies and sewage systems are presented. The course covers alteration, repair, and maintenance methods of commercial and domestic plumbing systems. Nomenclature of the various connecting devices for metal and plastic pipe and proper assembly such as soldering, threading, and gluing are included. Laboratory exercises and assembly projects provide the practice and methodology required to successfully repair and maintain fixtures and systems. Prerequisite: Reading Proficiency.

ME:109 ELECTRICAL FUNDAMENTALS AND MAINTENANCE 3
Presents basic DC and AC elementary circuitry and electrical schematics. The electrical properties and relationships of voltage-amperage-resistance-power and measurement techniques are covered. The applications portion emphasizes wiring and wiring materials, electric controls and switches, DC and AC motor fundamentals and electrical troubleshooting. Prerequisite: Reading Proficiency.

ME:110 HVAC OPERATOR I 3
A practical course dealing with the basic operation, maintenance and troubleshooting of heating, ventilating and air conditioning equipment including air, closed water stream and control systems. The dynamic equipment components of various systems will be studied with special emphasis upon preventive maintenance. Prerequisite: Reading Proficiency.

ME:135 MECHANICS - STATICS 3
A study of forces and their effects on motionless objects. Applications to trusses, beams, frames, and other topics are presented. Basic theory for structural design in mechanical and civil programs is studied. Prerequisite: MTH:140 and Reading Proficiency.

ME:140 INTRODUCTION TO ROBOTICS 3
This course is an introduction to the field of robotics. It will provide the student with a historical overview of the use and development of robotics. Topics to be studied include: specific types and application of industrial robots, the effects of industrial robots and technology on employers and employees, and Numerical Control (N.C.) and Computer Numerical Control (C.N.C.), information as it relates to the programming and functioning of robotic simulators. Prerequisite: MTH:124 or equivalent and Reading Proficiency.

ME:151 MANUFACTURING PROCESSES I 3
Teaching theory and manipulative skills in the basic processes of manufacturing: lathes, milling machines, shapers, drill presses, welding, foundry, sheet metal, precision instrument reading, and hand tools. Prerequisite: Reading Proficiency.

ME:152 MANUFACTURING PROCESSES II 3
This course is a continuation of Manufacturing Processes I with emphasis in Flexible Manufacturing Systems (FMS). Instruction includes Computer Numerical Control (CNC) programming, Robotics applications of Programmable Logic Controls (PLC), and Computer Integrated Manufacturing (CIM). Students will develop a CIM cell project. Prerequisite: ME: 151 and Reading Proficiency.

ME:153 LATHE AND MILL OPERATIONS AND SAFETY 3
This course is designed to teach fundamental machining operations on a Lathe and Mill. The course will emphasize general shop safety practices and machine operating procedures that is safe for the operators and other workers. Prerequisite: Reading Proficiency.

ME:211 PROGRAMMABLE LOGIC CONTROLLERS 3
This course presents the fundamentals of ladder logic (or relay logic) used on modern industrial controllers. Basic elements such as timers, counters, and sequences are studied, as well as traditional methods of applying them to machine control. Students will program and perform laboratory experiments with programmable logic controllers, such as the Allen Bradley SLC-100 controllers and interface them to various input and output devices. An industrial robot also is available in class for lab experiments. Use of IBM/Allen Bradley personal computer interface software will be covered as well. Prerequisite: ME: 140 recommended and Reading Proficiency.

ME:223 BASIC HYDRAULICS I 2
This course is arranged to give the student a general knowledge of the basic components of hydraulic systems, as well as a general understanding of the basic laws and formulas used in simple hydraulic calculations. It includes such topics as pumps, control valves, control assemblies, actuators, the use of standard hydraulic symbols, and maintenance procedures. Prerequisite: Reading Proficiency.

ME:225 FIXTURE DESIGN 3
Design of machining fixtures for drilling, milling, turning, welding, and numerical control processes. Use of standard components, accurate location of parts, and correct clamping are stressed. Procedures range from freehand sketching to accomplishing accurate working drawings of fixtures. Prerequisite: ME: 151 and EGR:100 and Reading Proficiency.

ME:226 AIR CONDITIONING AND HEATING 3
This course covers the operation of air conditioning and heating equipment and the calculation of cooling/heating loads for residential and commercial buildings. Laboratory experiments will supplement classroom work. Prerequisite: MTH:124 and Reading Proficiency.

ME:230 INTRODUCTION TO 3-D SOLID MODELING FOR DESIGN 4
This course is designed to teach the use of 3D solid modeling CAD packages. Instruction includes how to use a 3D CAD package to develop solid models in order to generate assemblies and 2D drawings. CAD package used in a particular semester or a section of this course may depend on the industry or student's demand. Some of the commonly used 3D solid modeling packages in the industry are: SDRC'S I-Deas Master, SolidWorks, Pro-E, and Solid Edge. It is suggested that prior to registering for this course, students would inquire with the department as to which CAD will be emphasized in a given semester or a section of the course. Prerequisite: Departmental Approval and Reading Proficiency.
ME:232 GEOMETRIC DIMENSIONING AND TOLERANCING 2
This course will provide an introduction to consistent and clear application of dimensions and tolerances as outlined in the ASME standard dealing with GD&T. Complete documentation of product requirements will consist of symbols, feature control frames, geometric tolerances, datums, and material condition modifiers. The course will also include methods of tolerance verification and basic design considerations. Prerequisite: Department Approval and Reading Proficiency.

ME:241 NUMERICAL CONTROL PROGRAMMING 3
This course will include a brief summary of machine types and their application with movies and local field trips; also, basic CNC programming language and preparation of part programs. Students will program and operate three axis vertical mills with sequential and word address controls. Prerequisite: ME: 151 and Reading Proficiency.

ME:242 MECHANICS-DYNAMICS 3
Dynamics extends the study of mechanics from forces and their effects on motionless objects to motion and the forces required to produce motion. Energy, impulse and momentum are included. Prerequisite: ME: 135 and Reading Proficiency.

ME:243 STRENGTH OF MATERIALS 3
This course consists of the study of the reaction of materials to tension, compression, torsion and flexure. Applications to the design of beams, columns, shafts and fasteners are presented. The students perform various materials tests in a fully-equipped laboratory. Prerequisite: ME: 135 and Reading Proficiency.

ME:244 MECHANICAL DESIGN I 3
This course applies the principles of engineering graphics to problems dealing with the drawing and design of machines and parts. The emphasis is to produce accurate and complete detail and assembly drawings utilizing the latest industrial drafting procedures and practices which include GD&T methods. Prerequisite: EGR:100 and Reading Proficiency.

ME:246 MECHANICAL DESIGN II 3
This course presents the design of various machine elements. The topics include: survey of engineering materials, weldments, fasteners, linkages, indexing mechanisms, cams, belt and chain drives, gear and gear trains, shafts, keys and splines, bearings and lubrication, couplings, clutches, brakes, power units, and springs. Prerequisite: ME: 243 and ME: 244 and Reading Proficiency.

ME:249 MATERIALS AND METALLURGY 3
This course is a survey of the sources, preparation, properties and uses of engineering materials. Topics include the following: the iron-carbon system, ferrous metallurgy, nonferrous metallurgy, ceramics, plastics, elastomers, composites, and finishes. Practical laboratory activities are performed to clarify and enhance text material. Prerequisite: Reading Proficiency.

ME:253 ENERGY CONVERSION 2
This course is a fundamental study of the conversion of energy into work and heat. The principles of thermodynamics used in the analysis of engines, air conditioning systems, turbines, pumps and fans are reinforced through laboratory experiments. Prerequisite: Reading Proficiency.

ME:254 ELECTRICITY AND CONTROLS 3
A basic course in AC-DC electricity and controls for non-electrical students. Study of DC, AC and magnetic circuits used for electric motor drives and transformers introduction to solid state and electromagnetic controls. Laboratory experiments parallel classroom material covered. Prerequisite: Reading Proficiency.

ME:255 FLUID POWER 3
This course is that portion of fluid mechanics which deals with its application and has been termed "Fluid Power." It emphasizes the study of components of hydraulics and pneumatics systems as used for industrial power transmission and control purposes. Prerequisite: MTH:144 or equivalent and Reading Proficiency.

ME:291 CO-OP WORK EXPERIENCE I: MECHANICAL ENGINEERING 1-8
A cooperative education work experience consists of a work assignment with an employer or agency (minimum of 15 hours per week), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisite: Reading Proficiency.

ME:292 CO-OP WORK EXPERIENCE II: MECHANICAL ENGINEERING 1-8
Continuation of ME: 291. Prerequisite: Reading Proficiency.

ME:293 CO-OP WORK EXPERIENCE III: MECHANICAL ENGINEERING 1-8
Continuation of ME: 292. Prerequisite: Reading Proficiency.

MUSIC

MUS:101 MUSIC THEORY I 4
An integrated course in musicianship. Diatonic harmony with reference to 18th-century style. Combines written and keyboard harmonic analysis and modulation. Prerequisites: Experience in reading music notation is recommended and Reading Proficiency.

MUS:102 MUSIC THEORY II 4
Continuation of MUS:101. Enlargement of vocabulary to comprise inversion of triads, non-harmonic tones, chord extensions, harmonic analysis and modulation. Prerequisite: MUS:101 or permission of instructor and Reading Proficiency.

MUS:103 BASIC MUSIC 3
A course in the fundamentals of music including note reading, scales, keys, intervals, rhythmic activities and simple keyboard study.

MUS:104 INTRODUCTION TO MUSIC THEORY 3
Review of musical notation, major and minor keys and scales, intervals, triad types, elementary sight-singing, rhythm drills, dictation, ear training and introduction to keyboard work. Prerequisite: MUS:103 or equivalent and Reading Proficiency.

MUS:111 INTRODUCTION TO MUSIC LITERATURE I 3
The elements of music and basic listening techniques. Representative composers and their music. Discussion of extramusical factors bearing upon their lives and works. Prerequisite: Reading Proficiency.

MUS:112 INTRODUCTION TO MUSIC LITERATURE II 3
Continuation of MUS:111. Prerequisite: Reading Proficiency.

MUS:113 HISTORY OF JAZZ 3
A study of main eras of jazz: New Orleans Dixieland, Ragtime, Chicago Dixieland, Swing, Bop, Cool, Third Stream, Improvisation. Emphasis on listening to the various styles and artists. Prerequisite: Reading Proficiency.

MUS:114 THE ENJOYMENT OF MUSIC 3
An introduction to a wide variety of musical styles moving from more familiar examples toward a greater understanding of more unfamiliar styles. A survey of the uses and historical evolution of music including discussion of the composers and their works. Prerequisite: Reading Proficiency.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MUS:115</td>
<td>VOICE I</td>
<td>2</td>
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<tr>
<td></td>
<td>Introduction to the fundamentals of singing. Attention directed to tone production, breath control, diction, phrasing, rhythmic and melodic precision stage deportment. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>MUS:116</td>
<td>VOICE II</td>
<td>2</td>
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<tr>
<td></td>
<td>A continuation of Voice I. Efficient breath control, improvement of tone quality, and song interpretation are stressed. Songs in English and Italian will be studied. Prerequisite: MUS:115 and Reading Proficiency.</td>
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<tr>
<td>MUS:121</td>
<td>CLASS PIANO I</td>
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<tr>
<td></td>
<td>A course designed to develop basic skills and techniques in piano playing applicable to various types of music. For the student with no previous keyboard experience.</td>
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<tr>
<td>MUS:122</td>
<td>CLASS PIANO II</td>
<td>2</td>
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<tr>
<td></td>
<td>Continuation of MUS:121. Prerequisite: MUS:121 or demonstrated proficiency and Reading Proficiency.</td>
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<tr>
<td>MUS:127</td>
<td>CLASS VOICE</td>
<td>1</td>
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<td></td>
<td>A study of the fundamentals of tone production, diction, posture and breathing. Simple songs and part singing. Prerequisite: ability to read music. Reading Proficiency.</td>
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<tr>
<td>MUS:128</td>
<td>SURVEY OF ROCK MUSIC</td>
<td>3</td>
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<td>A year-by-year review of the music, artists, composers, record producers, and others associated with rock ’n’ roll from 1954 to the present with emphasis on the controversies surrounding this genre.</td>
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<tr>
<td>MUS:129</td>
<td>MUSIC FOR THE CLASSROOM TEACHER</td>
<td>3</td>
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<tr>
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<td>Designed for elementary education students without regard to previous musical training. Students are prepared to use music functionally and developmentally in the elementary classroom through singing, through playing the piano and informal instruments, and through responding to musichythmically. Creative aspects and values of music are emphasized and materials are studied in relation to their future uses in the classroom. (Same course as EDU:129.)</td>
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<tr>
<td>MUS:130</td>
<td>BEGINNING GUITAR</td>
<td>2</td>
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<td>Course objective is to acquire a classical playing technique. Emphasis on correct seating and hand positions, note reading, chording and basic music theory. Students must supply their own guitar (nylon string recommended). Prerequisite: Ability to read music is recommended and Reading Proficiency.</td>
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<tr>
<td>MUS:131</td>
<td>CHORUS</td>
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<td></td>
<td>Study and performance of representative choral literature. Emphasis on vocal technique and development.</td>
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<tr>
<td>MUS:132</td>
<td>ORCHESTRA</td>
<td>1</td>
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<tr>
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<td>Study and performance of representative chamber and symphonic literature. Prerequisite: Audition and Reading Proficiency.</td>
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<tr>
<td>MUS:133</td>
<td>JAZZ LAB BAND</td>
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<td>Study and performance of the best in recent big band jazz compositions. Prerequisite: Audition and Reading Proficiency.</td>
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<tr>
<td>MUS:134</td>
<td>SYMPHONIC BAND</td>
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<td></td>
<td>Study and performance of representative symphonic band literature. Prerequisite: Experience in playing a band instrument and Reading Proficiency.</td>
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<tr>
<td>MUS:135</td>
<td>CHOIR</td>
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<td>A study of advanced choral literature. Emphasis on vocal technique and development. Prerequisite: Audition and Reading Proficiency.</td>
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<tr>
<td>MUS:138</td>
<td>JAZZ IMPROVISATION I</td>
<td>2</td>
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<td>The study and application of beginning jazz theory and improvisation to the performance of jazz music in a combo setting with little emphasis on concert performance. Prerequisite: Performance ability; audition; permission to enroll and Reading Proficiency.</td>
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<tr>
<td>MUS:139</td>
<td>JAZZ IMPROVISATION II</td>
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<tr>
<td></td>
<td>The study and application of intermediate jazz theory and improvisation to the performance of jazz music in a combo setting with greater emphasis on concert performance. Prerequisite: MUS:138 or equivalent and Reading Proficiency.</td>
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<tr>
<td>MUS:141</td>
<td>APPLIED MUSIC I</td>
<td>2</td>
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<tr>
<td></td>
<td>Individualized study of instrument or voice. Prerequisite: demonstrated proficiency and Reading Proficiency.</td>
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<tr>
<td>MUS:142</td>
<td>APPLIED MUSIC II</td>
<td>2</td>
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<tr>
<td></td>
<td>Continuation of MUS:141. Prerequisite: MUS:141 and Reading Proficiency.</td>
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<tr>
<td>MUS:143</td>
<td>INTRODUCTION TO DESKTOP MUSIC</td>
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<td></td>
<td>PUBLISHING</td>
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<td>This course is an introduction to the software called “Finale” as it is applied to desktop publication of printed music. Students will learn music printing techniques and will use digital keyboards to enter and play back musical scores. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>MUS:201</td>
<td>MUSIC THEORY III</td>
<td>4</td>
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<td></td>
<td>Continuation of MUS:102. Review of diatonic harmony, Chromatic harmony, 18th and 19th century practices. Analysis of written and keyboard harmonization. Development of rhythm, pitch and harmony through sight-singing and dictation. Prerequisite: MUS:102 or permission of instructor and Reading Proficiency.</td>
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<tr>
<td>MUS:202</td>
<td>MUSIC THEORY IV</td>
<td>4</td>
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<td></td>
<td>Continuation of MUS:201. Advanced chromatic harmony, 19th and 20th century practices. Analysis of written and keyboard harmonization. Development of rhythm, pitch and harmony through sight-singing and dictation. Prerequisite: MUS:201 or permission from instructor and Reading Proficiency.</td>
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<tr>
<td>MUS:211</td>
<td>MUSIC HISTORY I</td>
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<td></td>
<td>The history of music in Western civilization from its origins to the Baroque era. Emphasis on listening to and analyzing the music with score. Prerequisite: ability to read music and Reading Proficiency.</td>
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<tr>
<td>MUS:212</td>
<td>MUSIC HISTORY II</td>
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<tr>
<td></td>
<td>The history of music in Western civilization from the Baroque era to the present. Emphasis on listening to and analyzing the music with score. Prerequisite: Ability to read music and Reading Proficiency.</td>
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<tr>
<td>MUS:213</td>
<td>THE SYMPHONY</td>
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<td></td>
<td>Great symphonies analyzed and discussed as to style, form, compositional techniques and content. Directed listening and visits to live rehearsal and concerts. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>MUS:214</td>
<td>THE OPERA</td>
<td>3</td>
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<td></td>
<td>Principles of opera including plots, characters and music of operas from the 18th century to the present time. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>MUS:216</td>
<td>JAZZ IMPROVISATION III</td>
<td>2</td>
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<td></td>
<td>The study and application of advanced techniques in jazz improvisation in a combo setting with emphasis on concert performance. This course may be reenrolled for additional credit. Prerequisite: MUS:139 or equivalent and Reading Proficiency.</td>
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<tr>
<td>MUS:221</td>
<td>CLASS PIANO III</td>
<td>2</td>
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<td></td>
<td>Continuation of MUS:122. Prerequisite: MUS:122 or demonstrated proficiency and Reading Proficiency.</td>
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<tr>
<td>MUS:222</td>
<td>CLASS PIANO IV</td>
<td>2</td>
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<td></td>
<td>Continuation of MUS:221. Prerequisite: MUS:221 or demonstrated proficiency and Reading Proficiency.</td>
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MUS:225 BEGINNING CHORAL CONDUCTING 3
This course is an introduction to the art of Choral Conducting. The course stresses the development of fundamental skills as well as the application of practical solutions to problems found in everyday rehearsals. Throughout the course, emphasis will be placed on each participant developing a personal musical methodology based upon creative problem solving. The course provides a direct assessment of individual musicianship skills acquired in earlier core music classes such as ear training, theory, and music history. Prerequisites: MUS:102, MUS:122, MUS:135 and Reading Proficiency. Corequisite: MUS:201.

MUS:241 APPLIED MUSIC III 2
Continuation of MUS:142. Pre requisite: MUS:142 and Reading Proficiency.

MUS:242 APPLIED MUSIC IV 2

NURSING

NUR:101 FUNDAMENTALS OF NURSING 5
This course is an introduction to the role of the nurse in meeting needs common to all patients through knowledge, skill, and attitudes essential for the practice of nursing, based on principles of physical, biological and behavioral sciences, and nursing theory. Corequisite: NUR:102. Prerequisites: Enrollment in Nursing Program, Passing of Dosage Calculation Test, Grade of "C" or better in BIO:207 or permission of chairperson, Grade of "C" or better in PSY:205 or permission of chairperson, Reading Proficiency.

NUR:102 NURSING LABORATORY PRACTICUM I 1
This course is designed to provide the student with the practice of nursing skills in the College Laboratory and to reinforce principles introduced in Fundamentals of Nursing. Prerequisite: Reading Proficiency.

NUR:105 NURSING LABORATORY PRACTICUM II 1
This course is designed to provide the student with the practice of nursing skills in the College Laboratory and to reinforce nursing principles introduced in NUR:108. Corequisite: NUR:108. Prerequisite: Reading Proficiency.

NUR:106 LICENSED PRACTICAL NURSE TO ASSOCIATE DEGREE NURSING BRIDGE I 1
This course is designed to provide a bridging transition for licensed practical nurses who are pursuing an associate degree in nursing. Emphasis is on assessing, reinforcing, and expanding the existing nursing competencies of the student. The theoretical component will focus on the following areas: role change of LPN, communication skills, the nursing process, pharmacology and I.V. therapy and nutrition. The clinical activity will be an assessment of existing skills in basic patient care and medication administration. There will be a classroom and college laboratory component with a clinical laboratory assessment. Pre requisite. Current practical nurse license with recent clinical or education experience; enrollment in nursing program; PSY:205, BIO:207, ENG:101 with grades of "C" or above and Reading Proficiency.

NUR:107 LICENSED PRACTICAL NURSE TO ASSOCIATE DEGREE NURSING BRIDGE II 4
This course is designed as a continuation of the LPN transition started in NUR:106. Emphasis is placed on utilization of the nursing process to meet the nursing needs of clients throughout the life span receiving fluid and electrolyte therapy, pre- and post-operative care or have problems of immobility or decreased body defenses. The nursing care of the mother and the newborn in the maternal cycle also is included in this course. Both classroom and clinical experience are provided. The instructional methods will include lecture, audio-visual presentations, computer simulations, demonstrations and clinical laboratory activities. This course may be taught during the regular summer session as a sequence to NUR:106. Prerequisite: Current enrollment in nursing program; NUR:106, BIO:203, BIO:208, PSY:200 with grades of "C" or above and Reading Proficiency.

NUR:108 NURSING OF ADULTS AND CHILDREN 8
This course is designed to assist the student to acquire knowledge and skills in meeting the needs of adults and children with an emphasis on adaptation to illness and hospitalization in medical-surgical nursing, and mothers and newborns during the maternity cycle. Prerequisites: BIO:207, PSY:205, NUR:101, all with grades of "C" or better, and Grade of "C" or better in BIO:208 or permission of chairperson and Reading Proficiency. Co-requisite: NUR:105.

NUR:119 LPN EXPERIENTIAL CREDIT I 5
This course is designed to transcript LPN experiential credit for first semester nursing. LPN's must be enrolled in LPN Bridge Program and must have successfully completed NUR:106. Prerequisite: Enrolled in LPN Bridge and completion of NUR:106 with a grade of "C" or better and Reading Proficiency.

NUR:120 LPN EXPERIENTIAL CREDIT II 5
This course is designed to transcript LPN experiential credit for second semester nursing. LPN's must be enrolled in LPN Bridge Program and must have successfully completed NUR:107. Prerequisite: LPN enrolled in LPN Bridge and completion of NUR:107 with a grade of "C" or better and Reading Proficiency.

NUR:201 NURSING OF ADULTS AND CHILDREN II 9
This course is designed to assist the student to further develop knowledge and skills necessary to meet the needs of adults and children with selected medical-surgical problems and exaggerated behavior problems. Prerequisites: NUR:108 or NUR:107 and BIO:203 and BIO:208 all with grades of "C" or better. Co-requisite: NUR:203 and Reading Proficiency.

NUR:203 CONTEMPORARY NURSING 1
This course is a study of selected topics related to the development of nursing practice and education, professional organizations, ethical legal aspects, current issues and trends. Prerequisites: NUR:108 or NUR:107 with grades of "C" or better. Co-requisite: NUR:201 and Reading Proficiency.

NUR:204 MANAGEMENT SKILLS IN NURSING 3
This course includes theory and practice in the principles of managing the care of a group of patients. The student will participate actively in the role of a beginning staff nurse under the guidance of agency staff and instructor. Prerequisites: NUR:201 and NUR:203 both with grades of "C" or better and Reading Proficiency. Co-requisite: NUR:203. 1 lecture, 6 clinical hours per week.

NUR:205 NURSING OF ADULTS AND CHILDREN III 8
This course is designed to assist the student to further develop knowledge and skills necessary to meet the needs of adults and children with selected medical-surgical problems. Prerequisites: NUR:201 and NUR:203 both with grades of "C" or better and Reading Proficiency. Co-requisite: NUR:204. 5 lecture, 9 clinical hours per week.

OCCUPATIONAL THERAPY ASSISTANT

OTA:101 FUNDAMENTALS OF OCCUPATIONAL THERAPY ASSISTANT I 3
An introduction to occupational therapy, its philosophy, goals and focus in relation to basic treatment in geriatrics, psychosocial dysfunction, physical disabilities and developmental pediatrics. Beginning skills in practice of occupational therapy are learned. Prerequisite: Reading Proficiency. (3 hours per week clinical assignments to be arranged).
OTA:102 FUNDAMENTALS OF OCCUPATIONAL THERAPY ASSISTANT II 4
Beginning skills in occupational therapy treatment in geriatrics and psychosocial dysfunction are introduced. Group dynamics, work and leisure principles and activity analysis are included. Prerequisite: Reading Proficiency. (4 hours per week clinical assignment to be arranged).

OTA:103 ADAPTIVE ACTIVITIES I 2
The use of activities in occupational therapy including those that address sensory motor, cognitive, and psycho-social performance components. The student is introduced to activity analysis, methods of instruction, goal setting and cost and supply factors. Prerequisite: Admission to the OTA Program and Reading Proficiency.

OTA:104 ADAPTIVE ACTIVITIES II 2
The student will learn beginning skills in designing and fabricating a piece of adaptive equipment. Adaptive activities as they apply to seating, positioning, splinting, and functional tasks will be taught. Prerequisite: OTA:101, OTA:103 and Reading Proficiency.

OTA:203 FUNDAMENTALS OF OCCUPATIONAL THERAPY III 4
Occupational therapy evaluation and treatment procedures including self-care, therapeutic exercise, home management, use of adaptive equipment, work and leisure skills. Clinical assignments to be arranged. Prerequisite: OTA:102 and Reading Proficiency.

OTA:204 FUNDAMENTALS OF OCCUPATIONAL THERAPY IV 4
Occupational therapy evaluation and treatment procedures including developmental and perceptual motor skills, self-care, design and use of adaptive equipment and play/leisure. Field trips to be arranged. Prerequisite: OTA:102 and Reading Proficiency.

OTA:207 HEALTH AND DISEASE 4
This course is an overview of disease conditions commonly seen for treatment in occupational and physical therapy departments. Acceptance into the PTA or OTA Program is required. Prerequisite: BIO:207 and Reading Proficiency.

OTA:208 ADAPTIVE LIVING SKILLS 2
The course presents principles of adapting environments for persons with disabilities. The student will learn basic treatment techniques that are used with persons with physical disabilities across the lifespan. Prerequisite: BIO:209 and OTA:207 and Reading Proficiency.

OTA:213 OCCUPATIONAL THERAPY ASSISTANT PRACTICUM I 4
Field work experience in the treatment of geriatric clients, physically disabled children or adults or clients with psychosocial dysfunction. The student is supervised by an on-site occupational therapist, 8 weeks fulltime clinical assignment. Prerequisite: OTA:204, OTA:208, and OTA:215 and Reading Proficiency.

OTA:214 OCCUPATIONAL THERAPY ASSISTANT PRACTICUM II 4
Field work experience in the treatment of geriatric clients, physically disabled, children or adults, or clients with psychosocial dysfunction. The student is supervised by an on-site occupational therapist, 8 weeks fulltime clinical assignment. Prerequisite: OTA:204, OTA:208, and OTA:215 and Reading Proficiency.

OTA:215 THE MANAGEMENT OF OCCUPATIONAL THERAPY 2
A study of the management of occupational therapy: current trends, TQM, reimbursement, ethical issues, multi-Cultural diversity, documentation, and OTR/COTA collaboration. Prerequisites: OTA 101, OTA 103, OTA 104 and Reading Proficiency.

OTA:216 LEVEL II FIELDWORK SEMINAR 1
The study of topics related to Level II fieldwork and employability skills including organizational structures, regulation, continued professional development, job preparation skills. Prerequisites: OTA:203, OTA:204 and OTA 215 and Reading Proficiency.

PARAMEDIC TECHNOLOGY

PAR:201 PRINCIPLES OF PARAMEDIC TECHNOLOGY I 8
This course is an overview of Paramedic practice integrating the theory behind the use of advanced diagnostic and treatment procedures into the management of organic, life-threatening emergencies. Prerequisites: EMT:121 and BIO:207 and Departmental Approval and Reading Proficiency.

PAR:202 PRINCIPLES OF PARAMEDIC TECHNOLOGY II 8
This course serves as an overview of paramedic practice as well as integrating the theory behind the use of advanced diagnostic and treatment procedures in the management of organic, life-threatening emergencies. Topics include cardiovascular, cerebrovascular and other medical emergencies and their relationship to their respective disease processes. Prerequisite: PAR:201 and Reading Proficiency.

PAR:203 PHARMACOLOGY FOR PARAMEDICS 3
This course discusses drug theory and usage by paramedical personnel. Areas of emphasis are general principles of drug action, the mathematics of dosage calculation, the therapeutic effects, indications, contraindications, dosages, administration routes, and possible side effects of emergency drugs. Discussion of important prescription medications and their relationship to emergency treatment. Prerequisite: Reading Proficiency.

PAR:211 PARAMEDIC LABORATORY I 1
This course covers the practical skills relating to PAR:201 including assessment and history taking techniques, parental infusion techniques, antishock trousers, oxygen administration, airway adjuncts to include endotracheal intubation and cricothyrotomy techniques. Prerequisite: Admission to the Paramedic Program and Reading Proficiency.

PAR:212 PARAMEDIC LABORATORY II 1
This course covers the practical skills relating to PAR:202 and PAR:226, including patient assessment and history taking techniques with emphasis on ECG interpretation as well as special OB/GYN techniques. At the completion of the semester all skills covered previously will be reviewed. Prerequisite: Reading Proficiency.

PAR:221 PARAMEDIC CLINICAL I 1
Students provide advanced therapy to hospitalized patients under the supervision of licensed personnel. Prerequisites: Admission to the Paramedic program and Reading Proficiency.

PAR:222 PARAMEDIC CLINICAL II 2
Student provides advanced therapy to hospitalized patients under the supervision of licensed personnel. Prerequisite: PAR:201 and Reading Proficiency.

PAR:223 PARAMEDIC INTERNSHIP I 1
This course is designed specifically for those students who are currently enrolled in Paramedic Technology. Arrangements are made for the student to work with a pre-hospital, advanced life support system under the supervision of licensed personnel. Students will observe and practice the application of paramedic skills. Prerequisite: Admission to the Paramedic program and Reading Proficiency.

PAR:224 PARAMEDIC INTERNSHIP II 1
This course is designed specifically for the student who is currently enrolled in PAR:202 and PAR:226. Arrangements are made for the student to work with a pre-hospital, advanced life support system under the supervision of licensed personnel. Students will observe and practice the application of paramedic skills. Prerequisite: PAR:201 and Reading Proficiency.

PAR:225 PARAMEDIC INTERNSHIP III 4
This course is designed specifically for the student who is currently enrolled in Paramedic Technology. Arrangements are made for the student to work with a pre-hospital advanced life support system under the supervision of licensed personnel. Students will observe and practice the application of paramedic skills. Prerequisite: PAR:226 and Reading Proficiency.
This course integrates the theory behind the use of advanced diagnostic treatment procedures into the practice of the paramedic. Areas of emphasis include infectious disease, OB/GYN, behavior, abuse, geriatrics, hematology and patients with special considerations. Prerequisite: PAR:201 and Reading Proficiency.

PRD:227  PRINCIPLES OF PARAMEDIC TECHNOLOGY IV
4
This course integrates the theory behind the use of advanced diagnostic treatment, assessment based management, counseling, rescue and communication procedures into the practice of the paramedic. Areas of emphasis include pediatrics, management of the chronically ill patient, outbreak and rescue and communication techniques. Prerequisites: PAR:201, PAR:202, PAR:226 and Reading Proficiency.

PAR:228  PARAMEDIC CLINICAL I
1
Student provides advanced therapy to hospitalized patients under the supervision of licensed personnel. Prerequisite: PAR:226 and Reading Proficiency.

PERSONAL DEVELOPMENT

PRD:100  HELPING SKILLS
1
The focus will be on improving listening skills learning alternative ways of dealing with friends, family or co-workers and learning to help people help themselves.

PRD:101  INTERPERSONAL DYNAMICS TRAINING
1
This course will provide students with an opportunity to assess their competencies and deficiencies in the process of communicating with others. Through role playing and practice, students will utilize the skills and techniques that are valuable in improving their ability to interact in a productive manner with other people. These skills and techniques will include listening, responding and initiating in personal interactions.

PRD:102  CAREER EXPLORATION
1
Career Exploration emphasizes students learning about themselves as well as about the world of work. Students will learn to identify accurate career information and resources. They will also learn a decision making model to assist them in their career selection process.

PRD:103  ASSERTIVE TRAINING I
1
The aim of this course is to make non-assertive or aggressive persons aware of alternative responses and to give them support and experience in trying out new responses. There will be stress on developing a belief system in order to be able to make a choice of what kind of response one wants to make in any situation. Some videotape use in role-playing practice may be utilized.

PRD:104  ASSERTIVE TRAINING II
1
Assumes cognitive or theoretical background from PRD:103. Focus is upon practice of assertive skills with videotape of both simulated and personal realistic situations for which students want to develop assertion skills and practical criterion for choosing appropriate responses. Prerequisite: PRD:103.

PRD:106  RELAXATION TRAINING
1
This is a course for students who are dealing with increasing expectations and pressures. Participants will learn to identify when and how they experience stress in themselves. The material covered will include the causes of stress, individual assessments, relaxation techniques, methods of handling interpersonal stress, and audio tapes. Students will be asked to actively practice and utilize the techniques.

PRD:107  EXPLORATIONS FOR WOMEN I
1
In a group setting women will be provided the opportunity to explore their self-concepts and expectations of themselves and of the world, as well as to experiment with new directions for their personal growth. The group will use a variety of activities to help each member to become aware of her strengths, her needs and her patterns of communication and behavior, and to formulate personal goals and experiment with programs to achieve them.

PRD:108  PERSONAL GROWTH AND IDENTITY
1 - 2
This course is designed to involve participants in the process of seeing themselves more clearly having more available alternatives in their interaction with others, together with a clear perception of their own uniqueness. This class will be organized with a group discussion format emphasizing self-exploration.

PRD:109  HABIT CHANGE
1
Learn what the experts have discovered about changing a habit; use this information to overcome a self-defeating habit or develop a healthy habit. Possible goals: quitting smoking or drinking, starting an exercise program, controlling overeating, etc. Topics will include the stages of change, twelve change processes, and rebounding from relapse.

PRD:110  LEARNING TO COPE WITH TEST ANXIETY
1
This course is designed to help students learn to desensitize themselves (systematically) to anxieties associated with the taking of tests. In the academic setting these "tests" may come in the form of quizzes, exams, oral reports, or contributions to class discussions. Students who will find this course beneficial are those who typically "freeze up" or "go blank" because of excessive anxiety leading up to and during testing situations, and as a result do not attain their level of competence.

PRD:114  COPING WITH STRESS
1
An exploration of the nature and causes of stress and presentation of alternative ways of relieving stress, to include yoga, meditation, systematic desensitization, hypnosis and biofeedback.

PRD:120  STUDENT LEADERSHIP DEVELOPMENT
1
Provides the student with a basic understanding of the processes of leadership and decision-making in an educational setting. Topics include orientation to college procedures, time management, chairing skills, and group dynamics. Class consists of eight lecture/workshops and field experience by serving on or attending student association or college committees and class projects.

PRD:121  PERSONAL SUCCESS
1
The focus of this course is the enhancement of the student's self-esteem. The opportunity is provided for students to review their self-esteem in a variety of life areas (family, work, friends, education) and consider ways in which they work to enhance it. A number of self-initiating behaviors that persons of all ages may adopt to enhance self-esteem will be explored.

PRD:122  LEARNING THROUGH SERVICE
1
This course is designed for students who are seeking to expand leading in a designated academic or personal development course they are taking, reinforce academic and career goals, continue previous Service-Learning Projects, enhance their level of civic engagement and to learn more about the world of work in a non-profit agency.

PRD:125  COLLEGE ORIENTATION FOR OLDER ADULTS
1
This course will focus on what may be special interests and concerns of the 60+ population. It is designed to familiarize older persons with relevant SLCC resources and broader community resources and to discuss interests related to education and aging.

PHARMACY TECHNICIAN

PHT:101  PHARMACY TECHNICIAN ORIENTATION
3
This course defines the role of pharmacy technicians and includes an overview of the standards and regulations that govern technician practice. Prerequisite: Admission to the program. Prerequisite: Reading Proficiency.
PHT:103 PHARMACY CALCULATIONS 3
This course presents the practical application of mathematics for pharmacy technician students. Prequisite: Admission to program and Reading Proficiency.

PHT:104 PHARMACY LAW 1
This course examines the state and federal regulations that govern technician practice. Prequisite: PHT:101 and Reading Proficiency. 1 lecture hour per week.

PHT:110 PHARMACY TECHNICIAN INTERNSHIP I 1
This course provides students with a minimum of 160 contact hours of supervised work experience in 1 or 2 different pharmacy practice settings. Malpractice insurance is required. This course must be taken concurrently with PHT:111. Prequisite: PHT:101 and Reading Proficiency.

PHT:111 PHARMACY TECHNICIAN INTERNSHIP I - SEMINAR 1
This course is the classroom part of the students' job-site training. The past week's work experience will serve as the topic for discussion and problem-solving exercises. This course must be taken concurrently with PHT:110. Prequisite: Reading Proficiency. 1 lecture hour per week.

PHT:115 FUNDAMENTALS OF PHARMACY PRACTICE 6
This course prepares technicians to work specifically in a community or retail pharmacy. Prequisite: Reading Proficiency. 3 lecture, 4 lab, 1 recitation hours per week.

PHT:116 PHARMACY TECHNICIAN PRACTICUM 1
This course provides students with a minimum of 80 contact hours of supervised work experience in a community or retail pharmacy. Malpractice insurance is required. This course must be taken concurrently with PHT:117. Prequisite: PHT:115 and Reading Proficiency.

PHT:117 PHARMACY TECHNICIAN PRACTICUM SEMINAR 1
This course is the classroom part of the students' job-site training. The past week's work experience will serve as the topic for discussion and problem-solving exercises. This course must be taken concurrently with PHT:115. Prequisite: Reading Proficiency. 1 lecture hour per week.

PHT:201 PHARMACOLOGY 4
This course examines the effects of medication and alternative therapies that are commonly used to treat diseases and other abnormal conditions of the human body. Prequisite: PHT:101 and BIO:215 and Reading Proficiency. 5 lecture, 1 recitation hours per week.

PHT:203 PHARMACY PRACTICE 4
This lab course simulates the daily activities in the following pharmacy practice settings: hospital, retail, and long-term care. Prequisites: PHT:101 and PHT:103 and Reading Proficiency.

PHT:205 STERILE COMPOUNDING 4
Students learn to prepare sterile products according to the appropriate techniques, and to perform their work in accordance with the laws, regulations, and standards which govern the preparation of sterile products. Prequisites: PHT:101 and PHT:103 and Reading Proficiency. 2 lecture, 3 lab, 1 recitation hours per week.

PHT:220 PHARMACY TECHNICIAN INTERNSHIP II 2
This course provides students with a minimum of 160 contact hours of supervised work experience in 2 or 3 different pharmacy practice settings. Malpractice insurance is required. This course must be taken concurrently with PHT:221. Prequisite: PHT:101 and Reading Proficiency.

PHT:221 PHARMACY TECHNICIAN INTERNSHIP II SEMINAR 1
This course is the classroom part of the students' job-site training. The past week's work experience will serve as the topic for discussion and problem-solving exercises. This course must be taken concurrently with PHT:220 and Reading Proficiency.

PHILOSOPHY

PHL:101 INTRODUCTION TO PHILOSOPHY 3
An introduction to philosophical inquiry through a study of such perennial problems as the nature of truth and the possibility of knowledge, the various conceptions of the mind-body relation; the nature and basis of morality; the problem of free will and an analysis of the main arguments for the nature and existence of God. Emphasis upon methods and/or certain problems vary with the instructor. Prequisite: Reading Proficiency.

PHL:102 INTRODUCTION TO LOGIC 3
An introduction to the methods for critically evaluating reasoning and constructing valid arguments. The course may include the techniques of both traditional (syllogistic) and symbolic logic. Informal logic (language definition and fallacies) may also be covered. Prequisite: Reading Proficiency.

PHL:103 WORLD RELIGIONS 3
An orientation course examining the nature and function of religion in human experience and culture and an introduction to the history, content and present status of selected world religions such as Hinduism, Buddhism, Taoism, Confucianism, Islam, Judaism and Christianity. Prequisite: Reading Proficiency.

PHL:104 ETHICS 3
An introductory survey of basic issues and approaches in the field of ethics, with the aim of showing the relevance of philosophical inquiry to contemporary moral concerns. Questions concerning the good life, the nature and content of morality, and the relation of the individual to the standards of society will be considered. Prequisite: Reading Proficiency.

PHL:105 BLACK PHILOSOPHY 3
This course looks at the major philosophical and ideological themes manifested in Black life in the Western world. Black theology, Black nationalism, communalism, panAfricanism, Consciencism, African socialism, and Black values are some of the topics that may be included, as well as an introductory survey of African views. Prequisite: Reading Proficiency.

PHL:106 BLACK RELIGION 3
This is a study of the nature and function of religion in the lives of black people. This course will include the relationship of Christianity, Islam, and other African Philosophies to the ongoing struggles of black people. Prequisite: Reading Proficiency.

PHL:109 BIO-MEDICAL ETHICS 3
An examination of some moral problems such as patients' rights, abortion, euthanasia, cloning, artificial insemination, the definition of death, the allocation of medical resources, experimentation with human subjects, behavior control and genetic engineering. The relevance of both traditional and modern ethical theories will be explored. Prequisite: Reading Proficiency.

PHL:111 ENVIRONMENTAL ETHICS 3
First examines the history of ideas in the environmental movement. It next considers our human centered perspective and three alternatives to it: animal rights, reverence for life, and Aldo Leopold's land ethic. Finally it discusses wilderness, endangered species, and global warming from the perspective of these three alternatives. Prequisite: Reading Proficiency.
PHL:112 BUSINESS ETHICS 3
The ethical dimensions of the world of business are analyzed from a philosophical perspective. Using theories drawn from philosophy, students will evaluate business case studies with respect to such topics as personal and corporate responsibility and the obligations of justice. Prerequisite: Reading Proficiency.

PHYSICAL EDUCATION

PE:101 ADAPTIVE ACTIVITIES I 1
Individual therapeutic exercise programs including aquatic and resistance type activities, limited individual and team games, cardiovascular fitness instruction. Prerequisite: Department chair approval.

PE:102 ADAPTIVES II 1
Continued supervised program involving development of individualized therapeutic exercise programs including aquatic activities, strength building activities, flexibility or cardiovascular fitness instruction and training. Designed for students who may be limited in the amount/type of activity they can do. Prerequisite: PE: 101

PE:103 AEROBIC FITNESS 1
A program of exercise designed to develop cardiovascular fitness. A variety of activities may be involved ranging from walking, jogging, calisthenics, and stretching to stationary cycling. The student is introduced to the basic principles of developing, assessing, and evaluating aerobic fitness.

PE:104 ARCHERY 1
Archery conducted in 25 yard indoor archery area includes shooting techniques, target shooting, Columbia rounds and intraclass competition. Archery classes sometimes held outdoors.

PE:105 DEEP WATER EXERCISE 1
A program of deep-water exercise designed to promote cardiovascular fitness. Assisted by a flotation device student will engage in warm-up, aerobic, and toning exercises in a suspended state, thereby avoiding hard impact on joints. Recommended for individuals who have excess weight, knee or back problems.

PE:106 BACKPACKING AND HIKING 1
Introduction to outdoor living skills; menu planning, choice of proper hiking-camping apparel, campsite development, safety and sanitation. Practicum includes two one-day trail walks and one weekend camping trip. (Each student is responsible for his/her own equipment).

PE:107 BASEBALL I 1
Indoor/outdoor instruction in hitting, fielding, throwing, baserunning, conditioning, bunting, strategy, position play.

PE:108 BASEBALL II 1
Advanced skills and game strategy including hitting, fielding, throwing, baserunning, bunting, role of pitcher/catcher, coaching techniques. Prerequisite: Reading Proficiency.

PE:109 BASIC FITNESS I 1
Cardiovascular-neuromuscular development emphasizing on the individual. Various methods of exercise are introduced.

PE:110 BASIC FITNESS II 1
Continuation of PE: 109 format with additional variety of fitness modes - may include swimmastics, parcours exercise running course, aerobic dance.

PE:111 BASKETBALL I 1
Basics of ball handling, shooting, offense, defense, team play, conditioning.

PE:112 BASKETBALL II 1
Advanced individual and team skills: offenses, defenses, special situations, coaching techniques and strategy. Prerequisite: PE:111 or Instructor approval.

PE:113 BICYCLING /ROAD TRACK AND TOURING 1
Bicycling includes campus and college area touring, fitness development, selection and maintenance of equipment. Instruction on safety, camping, competition.

PE:114 BILLIARDS 1
Pocket and cushion billiards techniques, breaking, bridging and cushion shots, individual and partner competition.

PE:116 BOWLING I 1
Bowling is held at a nearby lane (nominal fee). Instruction includes approach, delivery, scoring, handicapping.

PE:117 BOWLING II 1
Continued emphasis on skills including adjustments to lane conditions, approach, developing a strike ball, picking all spare and split combinations; individual and team competition.

PE:118 CAMPING AND FLOATING 1
Students are introduced to fundamentals of outdoor living (i.e. cooking, campsite development, shelter, canoeing, selection and care of equipment). The course includes float trips on Missouri rivers. Each student should be a confident swimmer.

PE:119 CARE AND PREVENTION OF ATHLETIC INJURIES3
The course is designed to introduce the student to selected aspects of athletic training. Material presented has sufficient introductory information so that comprehensive background knowledge of anatomy, physiology, and kinesiology is not required. Student participation enhances the meaning of information presented. Student observation and participation in the use of therapeutic modalities and opportunities to follow the sequence of care, treatment and rehabilitation of athletic injuries are provided. Guest speakers add insight and variety to the students. Prerequisite: Reading Proficiency.

PE:120 COMMUNITY CPR 1
Physiological principles of cardio-pulmonary function with practicum in administering this lifesaving technique. ARC Certification for those who qualify.

PE:121 CYCLING ERGOMETRY FOR FITNESS 1
A complete controlled aerobic training program for any age, sex, or fitness level. Course is designed to improve lung capacity, stimulate metabolism, effect body composition through the loss of fat, and reduce stress. This supervised program involves the development of individualized workload programs. Course is conducted in the Fitness Center and utilizes ergometry equipment especially for stationary bicycles.

PE:122 DANCE AEROBICS 1
Exercise to music. Involves full muscle activity combined with vigorous cardiovascular activity.

PE:123 DANCE AEROBICS II 1
Advanced movements of exercise set to music. Full muscle activity plus cardiovascular activity is a part of the program. A low impact component is included.

PE:124 DANCE-CONTEMPORARY SOCIAL DANCE 1
The student will be exposed to contemporary and social dance steps/patterns. Content may include dance terminology, common step patterns/movements, rhythm and timing, and balance. Examples of dance include: East & West Swing, Imperial, Country Line and Slow Dancing.

PE:125 DANCE - COUNTRY WESTERN II 1
The student will be exposed to the unique style and variety of country western dancing. Terminology, common step patterns/movements, rhythm/timing/balance and music will be among the areas explored. A simple choreographed group routine will part of the class activities. Line dancing included. Provides an enjoyable means of exercise, increases grace and stamina and relieves stress. Prerequisite: PE: 124.
PE:126 **FENCING I**  
Introduction to fencing. Attacks, parries, strategy, and rules. Intraclass competition.

PE:127 **FENCING II**  
Refinement of techniques learned in Fencing I. Introduction of advanced parries and attacks. Use of electric equipment.

PE:128 **FENCING III**  
Students develop fundamental offensive and defensive techniques for sabre fencing. Rules, terminology and etiquette are addressed. The rules and basic strategy of botting are introduced.

PE:129 **FIRST AID**  
American Red Cross Standard First Aid and adult CPR. Emergency treatment for sick and injured including bleeding, breathing, poisoning, and fractures. Preventative concepts and cardiovascular resuscitation (CPR) also included. ARC certification available. This course may be taken to satisfy one credit hour of the physical education degree. Pre requisite: Reading Proficiency.

PE:130 **FITNESS CENTER I**  
Proper technique and routines are presented for the development of strength, flexibility and endurance. Individualized programs are developed and personal progress is charted by student and monitored by instructor. The program is designed to produce maximal gains in all areas of fitness with a minimal time commitment.

PE:131 **FITNESS CENTER II**  
Elements of strength training, flexibility, muscular endurance, cardiovascular conditioning and weight control are introduced. (Some variance by campus). Individualized programs are developed with instructor supervision and students participate and progress in a self-guided manner within parameters set and supervised by the instructor. Pre requisite: PE:130.

PE:132 **TOTAL FITNESS**  
Participants develop a self-directed program based on sound principles of fitness and wellness. The course may include basic fitness tests and activities outside of the Fitness Center. Pre requisite: PE:130 and PE:131.

PE:133 **GOLF**  
Basic fundamentals such as swing, club selection, putting, rules and etiquette are covered. Clubs are not provided.

PE:134 **TAP I**  
This is an introductory dance class that involves learning basic tap steps, style and technique. Students will develop rhythm, coordination, musicality and phrasing that will enable them to demonstrate basic tap rhythms, time steps and stylistic patterns.

PE:135 **HEALTH AND HYGIENE**  
Lecture/discussion course covering the interrelatedness of the body systems, the nature and communication of disease and the recovery process. Includes nutrition, fitness, sexuality, drugs and the wellness. Recommended for students intending to major in teacher education. Satisfies Missouri Teacher Certification. Pre requisite: Reading Proficiency.

PE:136 **ICE SKATING**  
Instruction in basic fundamentals and techniques of ice skating including proper dress and equipment. Course is held at local skating rink.

PE:137 **JUDO I**  
Introduction to the “gentle way” - the basic techniques of Sport Judo. Includes standing throws (Naga Waza), grappling techniques (Katame Waza), choking techniques (Shime Waza) and free exercise (Randori).

PE:138 **JUDO II**  
Intermediate techniques preparatory to advancement to higher rankings. Includes personal “kata” development as well as experience teaching peers, which is part of the advancement requirement in Judo.

PE:139 **KARATE I**  
Techniques of blocking, striking, punching, kicking. Combinations of techniques emphasizing correct timing, distance and focus. Sparring and “kata” are also added for advancement in rank.

PE:140 **KARATE II**  
Continued study of basic language and unwritten laws of Karate. Improved skills in punching, thrusting, striking, kicking and blocking. To learn more sophisticated combination techniques for defensive and offensive situations. To learn second and possibly third Katas as requirements for advancement in rank. To improve stamina and form in Kumite. Pre requisite: PE: 139.

PE:142 **LIFEGUARD TRAINING**  
This course provides students with the opportunity to complete American Red Cross Lifeguard Certification. Students will gain the knowledge and skills necessary to keep the patrons of aquatic facilities safe in and around the water. First Aid/CPR is included. Pre requisite: Swimming proficiency in an endurance swim and student must be at least 15 years of age and Reading Proficiency.

PE:143 **NUTRITION AND WEIGHT CONTROL**  
A course designed to encourage weight control through the use of principles of adequate nutrition. Nutrition related to good health will be emphasized.

PE:145 **PERSONAL DEFENSE I**  
Basic techniques of hand-to-hand defense including ju-jitsu and karate. Basic throws, attacks, blocks and releases. General rules of safety and prevention of attack situations are covered.

PE:146 **PERSONAL DEFENSE II**  
Continuation of defense skills with increased emphasis on preventative measures.

PE:147 **PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS**  
Activities such as game skills, perceptual-motor and manipulative activities, apparatus, stunts, tumbling, relays, combatives and rhythms are presented in progression. Proper use of facilities and equipment with an emphasis on safety is stressed. Classroom management and development of lessons are a focal point of the class. Pre requisite: Reading Proficiency.

PE:148 **RACQUETBALL I**  
This course will teach the basic techniques, including grip, forehand, backhand, serve, pass shots, backwall return, ceiling ball, and court positions. Class will be held at a racquetball club.

PE:149 **RACQUETBALL II**  
Advanced skills and game strategy; mastery of kill, passing, ceiling, and “Z” ball volleys, serving strategies, singles, doubles, and “cut-throat” competition.

PE:150 **RECREATIONAL GAMES I**  
Introduction to variety of individual, dual, and team sports popular as recreational activities. Course content may include racquetball, badminton, volleyball, swimming, bowling, golf, tennis - intraclass competition.

PE:151 **RECREATIONAL GAMES II**  
Same format as PE: 150, providing for sports not covered in the first semester offering.

PE:152 **ROLLER BLADING /INLINE SKATING**  
Instruction in basic fundamental and techniques of inline skating: safety, stroking, crossovers, backward skating, and stopping. Skates, helmet and safety pads are required.
PE:153  SCUBA DIVING I - OPEN WATER  2
P.A.D.I. Open Water Diver Course utilizes pool and classroom activities to cover knowledge and skills needed for open water scuba diving. The course introduces the physiological and psychological aspects of using self-contained underwater breathing apparatus. Safety, care, and maintenance of equipment are included. Successful completion of the classroom, confined water skills, and four open water dives will lead to P.A.D.I. Open Water Diver Certification. Prerequisites: Ability to swim 200 yards continuously and tread water for 10 minutes and meet P.A.D.I. medical standards, and Reading Proficiency.

PE:154  SCUBA DIVING II - ADVANCED OPEN WATER  1
Students participate in classroom and pool sessions as well as five supervised open water dives in various environments, utilizing equipment and skills beyond the scope of Scuba I - Open Water Course. This course is designed to prepare students for PADI Advanced Open Water Certification. Prerequisites: PE:153 or permission of instructor and Reading Proficiency.

PE:155  SCUBA DIVING III - SPECIALTIES  1
Students acquire in-depth, specialized knowledge, skills, underwater training, and experience in areas such as Underwater Photography, Search & Recovery, Navigation, Wreck Diving, Nitrox, Deep Diving, Night Diving, Dry Suit, Etc. Course is designed to prepare students for PADI Specialty Diver Certifications. Prerequisites: PE:154 or permission of instructor and Reading Proficiency.

PE:156  SKIING  1
Pre-trip conditioning exercise session in basic fundamentals: snow plow, stem and parallel turning use of poles, lifts, falling techniques, selection of equipment, clothing, speed control, safety procedures.

PE:157  SOCCER AND BASKETBALL  1
Indoor and outdoor soccer activity-instruction in ball handling, dribbling, trapping, passing, shooting, heading, throwing, goal tending, position play, rules of the game. Basketball fundamentals, passing dribbling, shooting, rebounding, drills, team play, rules of the game.

PE:158  SOCCER AND HOC-SOC  1
Indoor and outdoor soccer activity-instruction in ball handling, dribbling, trapping, passing, shooting, heading, throwing, goal tending, position play, team play, rules of the game. Hoc-soc is a 6-person game played indoors with modified rules, smaller goal, no out-of-bounds or off-side rule.

PE:159  SOFTBALL I  1
Indoor/outdoor instruction in hitting, fielding, throwing, baserunning, bunting, strategy, conditioning, position play.

PE:160  STRESS MANAGEMENT  3
This course presents an overview of the effect of stress on the body including its nature, physiology, role in disease and impact on one's health and wellness. A variety of coping strategies will be explored with an emphasis on exercise, tai chi, yoga, nutrition and diaphragmatic breathing. Prerequisite: Reading Proficiency.

PE:161  SWIMMING I (BEGINNING/ELEMENTARY)  1
Fundamentals of breathing, kicking, strokes, entries, water games, stunts. Strokes covered include crawl, back, side, elementary back, sculling, some endurance swimming and introduction to diving.

PE:162  SWIMMING II (ALL LEVELS)  1
Intermediate course in swimming includes all strokes survival swimming, endurance, elementary rescues, plus recreational water games.

PE:163  SWIMMING II (ALL LEVELS)  1
Intermediate course in swimming includes all strokes survival swimming, endurance, elementary rescues, plus recreational water games.

PE:164  SWIMMING WATER GAMES  1
Combination of intermediate swimming skill instruction with addition of water activities, relays, water polo, water basketball, stunts, diving.

PE:165  TAI CHI I  1
Tai Chi Quan is an ancient Chinese form of health and self-defense exercise that is a combination of internal and external activities. Participants will learn a basic form to serve as a solid foundation for future study.

PE:166  TAI CHI II  1
This course is a continuation of first level activities of Chen Style Tai Ji Quan. Students will complete the Chen Style form, including Chen Style theory, and will begin to learn other aspects of Tai Ji Quan practice, including Chen style pushing hands and Tai Ji Zhuang (Tai Ji meditation), which will give a base for learning the complete Chen style Tai Ji Quan system. Prerequisite: PE: 165.

PE:167  TEAM SPORTS  1
Indoor/outdoor sports activities may include: Flag football, field hockey, softball, volleyball, hoc-soc, modified water polo and basketball.

PE:168  TEAM SPORTS II  1
Winter indoor team sports: iceless hockey, hoc-soc, power volleyball, basketball, modified water polo. Spring outdoor team sports: softball, field hockey, soccer. Selection based on availability of facilities.

PE:169  TENNIS I  1
Introduction to basic strokes: forehand, backhand, serve, volley, lob; position play, strategy, singles and doubles matches, history, rules and intraclass competition included.

PE:170  TENNIS II  1
Extension of PE: 169 with added emphasis on competitive aspect singles-doubles, play-serving game, strategy-ladder competition.

PE:171  VOLLEYBALL I  1
Techniques in serving, volleying, setting-up, spiking, position play, scoring, intraclass competition.

PE:172  VOLLEYBALL II  1
Basic competitive skills including bumping, setting, hitting, blocking, serving, passing: plus history, rules and team play. Prerequisite: PE: 171.

PE:173  WALKING FOR FITNESS  1
Emphasis on techniques of walking, cardiovascular fitness, weight control, safety and equipment.

PE:174  WATER AEROBICS  1
Water Aerobics fitness, a program of water exercise designed to develop cardiovascular fitness. A variety of water exercises for all ages and swimming levels. Non-swimmers can participate; all activities are done in the shallow end of pool.

PE:175  WATER SAFETY INSTRUCTION  1
Certifies students to teach progressive swim classes. The course incorporates the ARC methods of teaching. Prerequisites: PE 142 and 17 years of age or current ARC Emergency Water Safety or ARC Lifeguard Training. Prerequisite: Reading Proficiency. 1/2 hour lecture, 1 1/2 hour lab per week.

PE:176  WEIGHT TRAINING I  1
General muscular development through circuit weight training utilizing universal weight machines. Progression measured on the 18 stations.

PE:177  WEIGHT TRAINING II  1
Advanced training on newest weight training techniques utilizing the latest weight machines. Increased muscular development through lifting more weight.

PE:178  WEIGHT WATCHING AND EXERCISE  1
Introduction to the concept of cardiovascular exercise through jogging, combined with principles of weight reduction. Course objective is for student to develop personal program of regular exercise and awareness of weight loss-gain maintenance.
PE:180 WELLNESS AND FITNESS CONCEPTS 3
This course is designed to assist the individual to develop a personalized wellness program. Topics will include exercise, nutrition, substance abuse, weight management, stress management, sexually transmitted disease, and other relevant topics. An exercise component will be included. Pre-requisite: Reading Proficiency.

PE:181 YOGA I (BEGINNING) 1
Introduction to Hatha Yoga (the Yoga of physical well-being). Designed for students of all physical conditions. Tones and limbers the body, reduces the effects of everyday physical and mental strain. Written observations included in course requirements.

PE:182 YOGA II (ALL LEVELS/INTERMEDIATE) 1
Course for beginners and intermediates. Course deals with Hatha Yoga (the Yoga of physical well-being). Improves flexibility and muscle tone, working toward reduction of effects of everyday strain.

PE:183 FIGURE CONTROL AND FLEXIBILITY 1
Extension of Figure Control. Introduction of more extensive routines, cardiovascular principles, principles of static versus ballistic exercise, addition of more variable resistance work.

PE:186 SCUBA DIVING IV - RESCUE DIVER 1
Students acquire the knowledge and skills necessary to organize, implement, and supervise a rescue operation including underwater and surface rescue techniques, search patterns for locating a missing diver and administering first aid and/or CPR. The ability to organize and function as part of a team is highly stressed. Pre-requisite: PE:154 or equivalent national certification and Reading Proficiency.

PE:187 SCUBA DIVING V - DIVESMATTER 1
Divemaster I is an internship program where students observe and assist with beginning students in the pool, classroom, and open water sessions under direct supervision of current instructors. Divemaster candidates learn to identify potential problems and effect tactful corrective measures as well as learning how to instruct beginning scuba students in academic and skill development. Candidates must hone their aquatic skills to “demonstration” quality and will demonstrate various open water skills for beginning classes throughout the semester. Pre-requisite: PE:186 and Reading Proficiency.

PE:191 BODY CONTOURING 1
Exercise class using resistance in the form of free weights and elastic bands to develop the figure, posture, flexibility and muscle tone. Nutrition strategies will be discussed.

PE:192 CARDIO-FLEX 1
Emphasis in cardiovascular fitness, techniques of walking, low impact movement patterns set to music, weight control, and conditioning stretches to improve flexibility.

PE:195 JAZZ I 1
This is an introductory dance class that involves learning basic jazz techniques such as jumps, pirouettes, battements and leaps. Students will develop body awareness and gain flexibility, strength, and coordination by executing warm-up, progressions and combinations set to contemporary music.

PE:197 JAZZ II 1
This intermediate dance class improves basic jazz techniques such as jumps, double pirouettes, various battements and leaps. Students must execute more complex combinations and progressions, demonstrate proper technique and understanding of proper body placement. Pre-requisite: PE:195.

PE:199 PRACTICUM IN ATHLETIC TRAINING 3
This course is designed to help coaches and trainers improve their practical knowledge in sports medicine and athletic training. The student will work in a training room environment under the supervision of a certified athletic trainer. Taping skills and evaluating techniques will be emphasized. Pre-requisite: Reading Proficiency.

PE:199 SCUBA DIVING VI: DIVEMASTER II 1
Divemaster II is an internship program where students observe and assist with advanced scuba students in the pool, classroom, and open water sessions under direct supervision of current instructors. Divemaster candidates enhance their teaching and presentation skills by making classroom and pool presentations to advanced level students on a variety of diving topics. Candidates must develop their knowledge of diving physics, physiology, equipment, the marine environment, as well as their diving skills to near instructor levels. Pre-requisite: PE:187 and Reading Proficiency.

PED:107 BASIC KAYAKING SKILLS AND WATER SAFETY 1
This course provides the fundamentals of Kayaking. Content covered includes environmental safety in an indoor facility, flatwater skills on a lake, and ends with moving water skills on a river. Other topics include boat designing/fitting, paddling and stroke introduction. Pre-requisite: Entry Test Requirements: must demonstrate comfort in swimming in the deep end of the pool and display ability to swim the length of the pool continuous.

PED:116 PILATES 1
Pilates improves core strength and balances the muscles around the joints, improving the way your body functions, looks and feels. It focuses on breathing, pelvic placement, rib-cage placement, scapular movement, and head and cervical spine placement.

PED:134 GOLF II 1
This course provides students with the opportunity to learn and practice advanced skills in driving, pitching, putting, and selected course play. Students will develop skills which will provide them with an enhanced insight and understanding of golf. Pre-requisite: PE:133 or prior golf playing experience.

PED:135 FENCING IV 1
Techniques, target area, rules and strategy of epee fencing will be introduced. Pre-requisite: PE:126.

PED:136 POWER WALKING I 1
Speed walking technique and cardio vascular fitness will be the major emphasis. Equipment selection, safety and warm up will be reviewed. Pre-requisite: PE:173.

PED:137 TAP II 1
This intermediate tap class concentrates on progressions and combinations, footwork and relaxation during the performance of required skills. Pre-requisite: PE:134.

PED:138 YOGA - ADVANCED 1
Ten advanced asanas and additional breathing techniques will be presented. The emphasis will be placed on Classical yoga. Pre-requisites: PE:181 and PE:182.

PED:201 PSYCHOLOGICAL PERSPECTIVE IN EXERCISE AND SPORT 3
Sport and exercise psychology is the scientific study of people and behavior in sport and exercise contexts. This course focuses on two areas of study: (1) learning how psychological factors affect an individual’s physical performance and (2) understanding how participation in sport and exercise affects a person’s psychological development, health, and well-being. Pre-requisite: PSY:200 and Reading Proficiency.

PHYSICAL SCIENCE

PSI:101 PHYSICAL SCIENCE LECTURE I 3
Lectures survey of the fundamental principles of physics and chemistry with emphasis on science process skills. Designed for students in non-science and career curricula. Content same as lecture portion of PSI:124. Credit may be earned for either PSI:124 or PSI:101, not both. Pre-requisite: MTH:007 or MTH:030 with grade of "C" or better; or MTH:108 with grade of "C" or better, or one year high school algebra with grade of "C" or better each semester and Reading Proficiency.
PHYSICAL SCIENCE I 3
A lecture/laboratory introduction to science with special subject adaptations for students in non-science and career programs. Prerequisite: Reading Proficiency.

PHYSICAL SCIENCE LABORATORY I 1
A laboratory course in general physical science including topics related to PSI:101. Prerequisite: concurrent or prior enrollment in PSI:101 and Reading Proficiency.

INTRODUCTION TO ASTRONOMY I 3
Descriptive coverage of the topics: earth, solar system, stars, galaxies and evolution of the universe for non-science majors. Prerequisite: Reading Proficiency.

INTRODUCTION TO ASTRONOMY II 3
Selected topics of interest in modern astronomy are covered in depth. Prerequisite: PSI:111 or consent of instructor and Reading Proficiency.

OBSERVATIONAL ASTRONOMY 1
An introduction to astronomical observations, techniques and instruments, which may accompany PSI:111 or PSI:112 (Introduction to Astronomy I or II) or may be taken independently. No prior knowledge of astronomy is assumed. Prerequisite: Reading Proficiency.

LIGHT AND VISION 3
A descriptive coverage of light, color lighting effects, vision lasers and holography. Prerequisite: Reading Proficiency.

METEOROLOGY 3
This physical science course introduces the reasons why we have weather and the forces which create specific weather patterns and phenomena. Topics range from global wind and radiation patterns on the macroscale, to thunderstorms and tornadoes on the microscale. Students regularly participate in weather forecasting using daily public weather information. Prerequisite: Reading Proficiency.

PRINCIPLES OF PHYSICAL SCIENCE 4
A survey of the fundamental principles of physics and chemistry with emphasis on science process skills. Laboratory exercises illustrate and reinforce lecture topics. Credit may be earned for either PSI:124 or PSI:101, not both. Prerequisite: MTH:007 or MTH:030 with grade of "C" or better, MTH:108 with grade of "C" or better, or one year of high school algebra with grade of "C" or better and Reading Proficiency.

PHYSICAL THERAPIST ASSISTANT

INTRODUCTION TO PHYSICAL THERAPIST ASSISTANT 2
This course provides an introduction to the professional field of physical therapy and the role of the physical therapist assistant in the health care system. Legal and ethical questions are discussed. Prerequisite: Reading Proficiency.

CLINICAL EXPERIENCE I 2
Students will have the opportunity to practice skills acquired in the first year of study in a clinical facility under the supervision of a licensed physical therapist for three weeks. Prerequisite: Permission from the program director and Reading Proficiency. 120 clinical hours.

FUNDAMENTALS OF PHYSICAL THERAPIST ASSISTANT 4
This course is an introduction to the basic patient care skills in physical therapy. Emphasis is on the preparation of the patient procedures including positioning, transfers, and gait training. Students will then apply these basic skills while learning therapeutic massage techniques. Prerequisite: PTA:100 and BIO:209 and Reading Proficiency.

HEALTH OCCUPATION SEMINAR 2
A study of the health care system and the role of PTA within it. Topics include: health care organizations; department policies and procedures; audit; legal and ethical issues; community resources; record/keeping; and application for work. Prerequisite: PTA:100 and Reading Proficiency.

CLINICAL EXPERIENCE FOR ARMY TRANSITION STUDENTS 4
A six-week clinical experience for students in the army transition program to PTA. This is a full-time (40-hour per week) experience, with opportunity to develop skills under the supervision of a licensed physical therapist. Prerequisite: Program acceptance and Reading Proficiency.

PHYSICAL AGENTS 4
This course covers the therapeutic use of superficial heat and cold; compression; traction; light; electrical stimulation and hydrotherapy. Prerequisite: PTA:100 and PTA:105 and Reading Proficiency.

THERAPEUTIC EXERCISE AND REHABILITATION CONCEPTS I 5
A study of basic concepts of exercise and techniques to develop flexibility, strength, power, and endurance. Application is made to the extremity joints. Assessment and management of postural and gait dysfunction is included. Requires off campus labs. Prerequisites: PTA:100, PTA:214, PTA:105 and Reading Proficiency.

THERAPEUTIC EXERCISE AND REHABILITATION CONCEPTS II 5
Study of normal development neurological and long term disabilities. Required off campus observations. Prerequisite: PTA:212 and Reading Proficiency.

ASSESSMENT SKILLS 2
An introductory course to assessment skills used by PTAs. Includes: goniometry, muscle testing, posture, gait, and vital signs. Prerequisite: BIO:209 or BIO:209 can be taken simultaneously and Reading Proficiency.

MEDICAL CONDITIONS IN REHABILITATION 3
Study by case presentation of disease conditions commonly seen in occupational and physical therapy departments. Prerequisites: BIO:207 and BIO:208 and Reading Proficiency.

CLINICAL EDUCATION IIA 4
Students will have the opportunity to practical skills acquired in the first & second years of the program in a clinical facility under the supervision of a licensed Physical Therapist for 6 weeks. Prerequisite: Permission of Program Director and Reading Proficiency.

CLINICAL EDUCATION IIB 4
Students will have the opportunity to practical skills acquired in the first & second year of the program in clinical facility under the supervision of a licensed Physical Therapist for 6 weeks. Prerequisite: Permission of Program Director and Reading Proficiency.

TECHNICAL PHYSICS I 4
This course designed for one and two-year career curricula stresses applications of physical laws to problems of technology. Prerequisite: prior or concurrent enrollment in MTH:124 and Reading Proficiency.

TECHNICAL PHYSICS II 4

COLLEGE PHYSICS I 4
This course is the first semester of a two-semester non-calculus physics sequence. The entire course covers topics in mechanics, heat, sound, electricity, magnetism, optics and modern physics. Prerequisite: MTH:144 or MTH:160 or concurrent enrollment in MTH:160A or MTH:160B or MTH:160C and Reading Proficiency.
PLASTICS TECHNOLOGY

PLA:100 INTRODUCTION TO PLASTICS TECHNOLOGY 4
This course introduces students to plastics technology program. The course is designed to give an overview of the plastics industry, plastics materials, and various methods of plastics processing including injection and blow molding and extrusion processes. Prerequisite: Reading Proficiency.

PLA:150 PLASTICS MATERIALS TESTING AND HANDLING 4
This course will provide an introduction to the structure of polymers to include composition and applications of thermo-plastics and thermoset materials. Details with examples of flow of materials beginning with receiving, handling, processing, and shipping of the product will be presented. The course will also cover hands-on demonstration on measurement techniques for the commonly used physical properties of plastic materials utilizing ASTM standards. Prerequisite: PLA:100 and Reading Proficiency.

PLA:200 PLASTICS MACHINE OPERATIONS I 4
This is the first of a two course sequence that cover plastics molding and processing techniques including injection, blow molding machines and extrusion process. Emphasis will be placed on operations and mechanics of the injection-molding machine. Hands-on instruction will include in processing, material set-up, use of hand-tools and equipment, and quality production of plastics injection molded parts. Safety procedures and preventive actions associated with these machines will be discussed where applicable. This course along with the previous course Plastics Machine Operations II will enable a student to have a comprehensive understanding and grasp of the method of beginning the molding process and enable them to implement the change when needed to this process. Prerequisite: PLA:200 and Reading Proficiency.

PLA:250 PLASTICS MACHINE OPERATIONS II 4
This is the continuation of the two course sequence that cover plastics molding and processing techniques including injection, blow molding machines and extrusion process. Emphasis will be placed on operations and mechanics of the injection-molding machine. Hands-on instruction will include in processing, material set-up, use of

POLITICAL SCIENCE

PSC:101 INTRODUCTION TO AMERICAN POLITICS 3
A survey of the American political scene which meets the State requirement. Basic values, current issues, government processes, and citizen rights are discussed in a modern framework. National, as well as some state and local areas, are covered. Prerequisite: Reading Proficiency.

PSC:102 AMERICAN NATIONAL POLITICS 3
A basic course which introduces the student to political parties, interest groups, elections, individual freedoms and the institutions of the national government (Congress, the Courts, and the President and bureaucracy). This course and PSC:103 are recommended for the social science major. Prerequisite: Reading Proficiency.

PSC:103 STATE AND URBAN POLITICS 3
This course is a study of the political patterns of the American states and their formal and informal relationships to local governments. Special emphasis is placed on urban, suburban, and metropolitan politics and problems. Prerequisite: Reading Proficiency.

PSC:104 BRITISH POLITICS AND SOCIETY 3
This course introduces students to some of the main institutions and issues of contemporary British politics and society. Through lectures, videos, text assignments, and field trips, students will explore government in 21st-century Britain. Prerequisite: Reading Proficiency.

PSC:106 BLACKS AND THE AMERICAN POLITICAL PROCESS 3
A study of the American political system and its effect on Black Americans. This includes an analysis of governmental processes, current issues, citizen’s rights, and techniques for effective participation in the political process. Prerequisite: Reading Proficiency.

PSC:107 INTRODUCTION TO INTERNATIONAL STUDIES 3
This course is designed to provide an introduction to the international system. The focus is on the emergence of the Third World as a significant part of the international system, the global issues of food, energy, and population, and the politics of the conflicts in the Middle East and South Africa. Prerequisite: Reading Proficiency.

PSC:201 INTERNATIONAL RELATIONS 3
An introduction to politics and policies among nations. Topics discussed include balance of power, balance of terror, terrorism, developing countries, international economic transactions, multinational corporations, international organizations, and the foreign policies of the major powers. Prerequisite: Reading Proficiency.

PSC:204 POLITICS OF AFRICAN NATIONS 3
An analysis of representative and current problems of African nations with particular attention to some specific problems of political development and modernization common to all of them. Prerequisite: Reading Proficiency.
PSC:205  CONSTITUTIONAL ISSUES 3
A study of various constitutional issues as free speech; sex, age and wealth discrimination, privacy; abortion; de facto segregation; and state and national issues. Missouri cases related to such constitutional issues will be examined. Cases are used as a basis for discussion. Prerequisite: Reading Proficiency.

PSC:207  FUTURE WORLDS: POLITICS AND SOCIETY 3
This course introduces alternative approaches to the future. The impact of technology on society will be discussed along with a consideration of environmental problems including energy, food supply, population, and natural resources. Discussions will explore political and economic power and institutions in an interdisciplinary framework. Prerequisite: Reading Proficiency.

PSC:209  THE UNITED NATIONS 3
The study of the United Nations Organization emphasizing issues, procedures, problems and prospects and its role in promoting world peace. Prerequisite: Reading Proficiency.

PSC:211  U.S. FOREIGN POLICY 3
This course traces the evolution of American foreign policy from the origins of World War II to the present. The focus is on the cold war, containment, and contemporary issues. Specific policies and objectives are analyzed and evaluated along with the experiences, thinking, and goals of decision-makers. Prerequisite: Reading Proficiency.

PSC:212  RUSSIAN POLITICS AND SOCIETY 3
Marx's original communist ideology, the political history of the Soviet state, and the government and politics of contemporary Russia will be examined. Prerequisite: Reading Proficiency.

PSYCHOLOGY

PSY:100  PSYCHOLOGY OF GRIEF 2
This course investigates the meaning of death, the experience of dying, choices and decisions in death, death and the child, grief and bereavement. Special emphasis is placed on the role of funeral service personnel in working with the dying and with the bereaved. Prerequisite: Reading Proficiency.

PSY:125  HUMAN SEXUALITY 3
Human sexuality includes not only the biological component of male and female sexuality, but also attitudes, values and feelings about one's own gender and sex role. Consequently, in dealing with sex as a natural biological function, the expression of which is a dimension of psychosocial behavior, the sexual development and/or differentiation of men and women from conception to maturity will be stressed. (Same course as BIO:122 and SOC:125). Prerequisite: Reading Proficiency.

PSY:200  GENERAL PSYCHOLOGY 3
This course is an introduction to the scientific study of human behavior. It attempts to help students gain insights into their own and others' behavior. A variety of topics relating to psychological development will be covered. Prerequisite: Reading Proficiency.

PSY:203  CHILD PSYCHOLOGY 3
Psychological basis of child growth and development is covered. Emotional, mental, physical and social needs of childhood and adolescence are covered. Includes an analysis of the factors in the home, school and community which influence behavior and personality. Prenatal development and the problems of pregnancy are covered. Prerequisite: PSY:200 and Reading Proficiency.

PSY:205  HUMAN GROWTH AND DEVELOPMENT 3
This course is a survey of the basis of human growth and development. Emotional, mental, physical and social needs of children, adolescents and adults are reviewed. Analysis of the multiple factors which influence and shape behavior and personality is made. Prerequisite: PSY:200 and Reading Proficiency.

PSY:206  INTRODUCTION TO SOCIAL PSYCHOLOGY 3
This course presents an overview of social behavior and cognitive processes with emphasis on such topics as first impressions, impression management, nonverbal behavior, persuasion, conformity, interpersonal relationships, altruism, prejudice and discrimination, and group behavior. Prerequisite: PSY:200 and Reading Proficiency.

PSY:207  APPLIED PSYCHOLOGY 3
This course involves the application of psychological principles to problems of personal and social adjustment in a variety of settings. Prerequisite: PSY:200 and Reading Proficiency.

PSY:208  ABNORMAL PSYCHOLOGY 3
A survey of abnormal/deviant behavior, including the causes and theories concerning neuroses, psychoses, mental retardation, drug abuse, sexual disorders, criminal behavior, and other selected topics. A discussion of the prevention and treatment of these disorders is included. Prerequisite: PSY:200 and Reading Proficiency.

PSY:210  PERSONALITY AND ADJUSTMENT 3
An examination of the contributions of the major schools of human personality and its expression in patterns of adjustment and growth as well as in dysfunctional behavioral patterns. Theories surveyed will represent dynamic, humanistic, cognitive and behavioral perspectives. Adjustment issues include: self concept, social environment and role adaptation, self-management, maladjustment, remediation and treatment. Prerequisite: PSY:200 and Reading Proficiency.

PSY:211  BEHAVIORAL STATISTICS 4
An introduction to a number of descriptive and inferential statistics and how these are applied in the analysis of behavioral research data. Topics to be covered include the following: descriptive statistics: frequency distributions measures of central tendency, measures of variability and correlation. Inferential statistics: parameter estimation, probability theory and hypothesis testing, tests, analysis of variance and nonparametric tests including proportions test and chi square. Prerequisites: PSY:200, or SOC:101, and MTH:140 and Reading Proficiency.

PSY:213  PSYCHOLOGY OF AGING 3
An examination of normal and pathological aging changes in personality, sensory mechanisms, intelligence, creativity, and sexuality with some emphasis on methods of treatment. Prerequisite: PSY:200 and Reading Proficiency.

PSY:214  ADOLESCENT PSYCHOLOGY 3
The study of the individual from puberty to young adulthood. An examination of the physical, social, emotional, cognitive and moral development of adolescence. Additional topics of importance such as juvenile delinquency, adolescent sexuality and vocational choice are also discussed. Prerequisite: PSY:200 and Reading Proficiency.

PSY:215  BRAIN AND BEHAVIOR 3
This course examines the basic mechanisms of neuronal structure, function and communication. Behavioral functions studied include: sensations and perceptions, emotion and drives, learning and memory, vision, sleep and dreaming, stress, addiction, language, aging effects, sex differences, and disorders. Prerequisite: PSY:200 and Reading Proficiency.

PSY:216  PSYCHOLOGY OF GENDER 3
Psychological and cultural examination of gender, gender roles, socialization, and issues related to stereotyping, gender differences and similarities, and mental health. Prerequisite: PSY:200 and Reading Proficiency.

PSY:217  CROSS-CULTURAL PSYCHOLOGY 3
Cross-Cultural Psychology will examine the influence and impact of a variety of cultures (e.g., Chinese, Indian, Latino, Japanese, Middle Eastern) on psychological issues. Among the psychological issues included are: parenting, aging, gender, personality, cognition, and stress. Prerequisite: PSY:200 and Reading Proficiency.
PSY218 ADDICTION AND COMPULSIVE BEHAVIOR 3
This course explores the dynamics and scope of addiction and compulsive behavior in human experience. Unlike a course strictly devoted to substance abuse, this course examines the extent to which a chemical dependency model of addiction is applicable to other forms of compulsive behavior. Prerequisite: PSY:200 and Reading Proficiency.

QUALITY CONTROL
Q C:100 INTRODUCTION TO QUALITY CONTROL 3
A course that teaches the basic theories and concepts of quality control. Emphasis will be placed on the current technology used in quality control. Topics covered will include organization structure, collection of quality related information, quality engineering and total quality control. Computer applications and quality control software will be utilized to develop graphical analysis and diagnosis of symptoms. Quality planning principles will be introduced as a method of quality improvement. Prerequisite: Reading Proficiency.

Q C:102 QUALITY COST ANALYSIS 3
A survey course on the elements of product costs as they relate to quality. Direct quality cost, prevention, appraisal and failure and indirect quality cost: consumer incurred, customer dissatisfaction will be discussed in detail. The collection and evaluation of cost data as related to quality will be developed on a measurement base that is sensitive to change. Prerequisite: Reading Proficiency.

Q C:104 PRINCIPLES AND APPLICATION OF QUALITY 3
A course designed to teach the current technology used in quality control with emphasis on computer applications and software. Product control, job shop control and quality planning will be emphasized. Quality improvement through graphical analysis and diagnosis of symptoms, causes and remedies will be stressed. Prerequisite: Reading Proficiency.

Q C:105 NON-DESTRUCTIVE TESTING 4
This course presents the theory and application of the most common non-destructive test methods. Students will learn the types of equipment and procedures used for the testing of various materials as well as joined materials, detail parts and assemblies. Testing methods studied will include ultrasonic, eddy current, x-ray, magnetic particle and liquid penetrant. Prerequisite: Reading Proficiency.

Q C:200 QUALITY ASSURANCE 3
Advanced course on the scope and function of quality assurance. Topics covered include vendor selection, records, procurement methods and data analysis. The subject of quality standards will be covered and students will be instructed in quality audit techniques. Prerequisite: Reading Proficiency.

Q C:202 INSPECTION METHODS 3
This course will introduce the subject of inspection as it relates to the product or process specification. The location of various inspection functions, type of inspection plans, the inspection standard and inspection organization will be discussed. Inspection records keeping and tool calibration will be developed for a typical inspection function. Prerequisite: Reading Proficiency.

Q C:204 RELIABILITY AND FAILURE ANALYSIS 3
This course will analyze the component failure to determine the validity of a product design. The subject of failure will be developed on a coordinated approach to include: failure prediction, failure testing and failure elimination in design, manufacturing and field use. Prerequisite: MTH:124 and Reading Proficiency.

Q C:206 STATISTICAL QUALITY CONTROL I 3
Introduction to frequency distributions and the normal curve. Concepts of variation, statistical process control and process capability. Pre-control, control charts for variables and attributes, and SPC techniques for short runs will be discussed. Prerequisite: MTH:124 or QC: 204 and Reading Proficiency.

Q C:208 STATISTICAL QUALITY CONTROL II 3
Fundamentals of probability and probability distributions. Development and use of acceptance sampling plans and operating characteristic curves. Introduction of a wide assortment of sampling strategies and hypothesis testing. Prerequisite: QC: 206 and Reading Proficiency.

Q C:209 DESIGN OF EXPERIMENTS/ TAGUCHI METHODS 3
Introduction to techniques for efficiently designing and analyzing experiments to optimize processes or product designs. Emphasis is on the use of Taguchi methods and utilizing techniques to minimize variation. Prerequisite: QC: 208 and Reading Proficiency.

Q C:210 SOFTWARE QUALITY ASSURANCE 3
Course provides theory and application of quality assurance practices at each phase of software life cycle development. Government and industry software quality assurance standards are covered. Prerequisite: Reading Proficiency.

Q C:211 ASSESSMENT OF QUALITY SYSTEMS 3
This course will discuss methods for evaluating the effectiveness of a company's quality system. Standards and criteria to be used include the current ISO 900 series, the Malcom Balridge National, and state quality award criteria. Self-assessment and general auditing techniques will be examined, along with how to utilize these evaluation methods to foster a company's improvement journey. Prerequisite: Reading Proficiency.

RADIOLOGIC TECHNOLOGY
X RT:101 RADIOGRAPHIC PROCEDURES I 6
In-depth coverage of radiographic anatomy, positioning and examination procedures for the chest, abdomen, IV urogram, gastrointestinal series and selected portions of the extremities. In-depth coverage of basic radiation protection, nursing procedures, ethics and terminology are presented. Prerequisite: current enrollment in program and Reading Proficiency.

X RT:102 RADIOGRAPHIC PROCEDURES II 3
A continuation of XRT:101, covering radiographic anatomy, positioning and examination procedures for the extremities, shoulder and pelvic girdle, bony thorax and vertebral column and the skull. Prerequisite: XRT:101 and Reading Proficiency.

X RT:103 RADIOGRAPHIC PROCEDURES III 3
A continuation of XRT:102, covering intraoral, bedside, trauma and selected specialized procedures. Prerequisite: XRT:102 and Reading Proficiency.

X RT:104 PRINCIPLES OF RADIOGRAPHIC EXPOSURE I 2
This course is intended to give the beginning student basic knowledge in technique and an in-depth coverage of exposure factors, quality of radiographs. Prerequisite: XRT:101 and Reading Proficiency.

X RT:105 PRINCIPLES OF RADIOGRAPHIC EXPOSURE II 2
Continuation of XRT:104 with an in-depth coverage of quality of radiographs, control of exposure factors, and techniques of chart construction. Prerequisite: XRT:104 and Reading Proficiency.

X RT:107 RADILOGIC PHYSICS I 2
Fundamental principles of radiation physics and equipment to include the study of x-ray tubes, rating charts, radiation control devices and automatic processing. Prerequisite: XRT:101, XRT:102, and XRT:104 and Reading Proficiency.

X RT:108 RADILOGIC PHYSICS II 2
Production and measurement of radiation, interaction with matter, principles of radioactivity and electromagnetic radiation will be covered. Prerequisite: XRT:101, XRT:102, and XRT:107 and Reading Proficiency.
XRT111  CLINICAL EDUCATION I  1
Prerequisite: Current enrollment in Radiologic Technology program and Reading Proficiency. Forty clinical hours per week for two weeks.

XRT112  CLINICAL EDUCATION II  2
Practicum in basic radiographic positioning. Prerequisite: XRT:111 and Reading Proficiency.

XRT116  CLINICAL EDUCATION III  4
Prerequisite: XRT:112 and Reading Proficiency. 27 clinical hours per week (432 total hours per semester).

XRT121  RADIOGRAPHIC FILM EVALUATION I  2
A critical analysis of radiographs in the examination of the upper and lower extremities, the shoulder and pelvic girdles, bony thorax, vertebral column and the skull. Prerequisite: XRT:103 and Reading Proficiency.

XRT122  RADIOGRAPHIC FILM EVALUATION II  2
A continuation of XRT:121, completing the skull and also covering the respiratory system, abdomen, digestive and urinary systems. Prerequisite: XRT:121 and Reading Proficiency.

XRT207  RADIOLeGIC PATHOLOGY  2
This course is a presentation of the more commonly encountered lesions of the human body as seen through the medium of x-ray. Anatomy and physiology of pathologic processes are presented by body systems as a means of exploring the rationale of many intricate radiologic examinations. Prerequisite: XRT:105 and Reading Proficiency.

XRT208  IMAGING AND SPECIAL TECHNIQUES  3
A presentation of various recording media with emphasis on thermography, xeroradiography, Polaroid, ultrasound, C.T. scanners and duplication and subtraction techniques. Prerequisite: XRT:105 and Reading Proficiency.

XRT209  RADIOBiOLOGY  2
A course emphasizing effects of radiation upon tissue and tissue recovery rate. Prerequisite: Reading Proficiency.

XRT211  RADIOLeGIC TECHNOLOGY REVIEW  3
A review of all major phases of radiologic technology, to include anatomy and physiology, radiographic procedures, radiographic exposure, physics, and radiation biology. This course will review critical material necessary for the national certifying examination. Prerequisite: Fourth semester R.T. student and Reading Proficiency.

XRT212  RADIOLeGIC TECHNOLOGY SEMINAR  3
Provides an introduction to quality assurance programs, computer applications and radiology management techniques as well as a discussion of various career options in radiology. Prerequisite: Reading Proficiency.

XRT213  CLINICAL EDUCATION IV  3
Continuation of practical education in all routine phases of radiologic technology. Prerequisite: XRT:116 and Reading Proficiency.

XRT214  CLINICAL EDUCATION V  4
Practicum in the operation of specialized equipment used in highly technical procedures. Prerequisite: XRT:213 and Reading Proficiency.

XRT215  CLINICAL EDUCATION VI  3
A continuation of clinical education in all phases of radiologic technology. Prerequisite: XRT:214 and Reading Proficiency.

XRT250  ESSENTIALS OF MAMMOGRAPHY I  2
A study of the principles of patient education, anatomy, physiology, pathology, positioning and image evaluation of the breast. Eight week course. Prerequisite: Reading Proficiency.

XRT251  ESSENTIALS OF MAMMOGRAPHY II  2
A continuation of XRT:250 Essentials of Mammography I. Emphasis will be on the principles of mammographic techniques, instrumentation, quality assurance and film critique. Prerequisite: Reading Proficiency.

XRT252  MAMMOGRAPHY PRACTICUM  5
This course provides the basic principles and theory of mammographic positioning, technique, quality control and patient care. Sixteen week course. This course can be waived with verifiable documentation of mammography experience that is equal to the requirements of XRT:252 Mammographic Practicum and at the discretion of the Program Coordinator. Prerequisite: Reading Proficiency.

READING

RDG:012  BASIC READING SKILLS  2
This is an initial reading course with emphasis on word attack skills, basic reading comprehension skills, and basic reading vocabulary development.

RDG:013  BASIC READING SKILLS LAB  1
This is an individualized course encompassing diagnostic-prescriptive laboratory reading instruction. Prerequisite: Concurrent enrollment in RDG:012.

RDG:016  DEVELOPMENTAL READING  2
This course is designed to help students expand the range of their reading comprehension and vocabulary skills. Prerequisite: Concurrent enrollment in RDG:017.

RDG:017  DEVELOPMENTAL READING LAB  1
This is an individualized course designed to develop reading comprehension and vocabulary. Prerequisite: Concurrent enrollment in RDG:016.

RDG:018  ENGLISH AS A SECOND LANGUAGE: READING  3
This is a course designed for non-native English speakers who wish to develop their knowledge of the structure of the English language and the pronunciation and formation of English letters. The instruction will include assistance with the reading of students’ content textbooks.

RDG:020  READING IMPROVEMENT  3
This course is designed to help students gain greater understanding of written material and to improve reading vocabulary.

RDG:021  READING IMPROVEMENT LAB  1
This course provides individualized practice under the supervision of a reading instructor.

RDG:030  INTRODUCTION TO COLLEGE READING  3
This course is designed to develop college-level reading comprehension, vocabulary and study skills. Prerequisite: RDG:020 or an appropriate reading level.

RDG:031  INTRODUCTION TO COLLEGE READING LAB  1
This course provides individualized practice under the supervision of a reading instructor.

RDG:033  INTRODUCTION TO TECHNICAL READING  3
This is a course designed for students in or entering technical/science programs who wish to improve their reading skills in these content areas. Emphasis will be placed on skills for handling technical/scientific terminology and principles.

RDG:050  SPELLING IMPROVEMENT  1
This course is designed for students who wish to improve their spelling skills. Students are allowed to progress at their own rates.
REAL ESTATE

REL:100 REAL ESTATE SALES PROCEDURES 4
This course assists those persons desiring to sit for the real estate sales license examination. It will include topics normally covered in the Uniform and Missouri portions of the exam including real estate ownership, contracts, financing, mathematics, brokerage, valuation and taxes, land description, and federal and state codes and regulations. (Course also available as continuing education option). Prerequisite: Reading Proficiency.

REL:102 PROPERTY APPRAISAL I: RESIDENTIAL 3
An introduction to the field of real estate appraising including basic appraisal principles, concepts, and techniques and the economic principles which apply to real estate valuation. Prerequisite: Reading Proficiency.

REL:104 REAL ESTATE LAW 3
A general introduction to real estate law designed to provide the non-lawyer with a working knowledge of real estate law and related aspects. The course will include examination of the laws that govern basic rights of ownership and use of real estate and deals specifically with aspects such as the sale of property, leasing, land use, land management and financing. Prerequisite: Reading Proficiency.

REL:105 RESIDENTIAL APPRAISAL II: MARKET DATA ANALYSIS 3
This course is a significant expansion of the following areas presented in REL:102 (1) Proving adjustments by market abstractions (2) calculating depreciation, and (3) completing the URAR Small Residential Income Property Report. Also included are basics of understanding styles of residential housing and construction and how to use the Marshall and Swift Residential Cost Manual. The student must pass the examination given at the end of the course if he/she wishes to receive a certificate of satisfactory completion from N.A.I.F.A. Prerequisite: REL:102 and Reading Proficiency.
appraisal courses in a hands-on approach. The appraisal will also serve as a demonstration of the student's abilities to prospective employers. (Requires the possession and use of a financial calculator.) Prerequisite: REL 102 and REL 202 and Reading Proficiency.

**RESPIRATORY THERAPY**

**RTH:120 INTRODUCTION TO RESPIRATORY CARE AND RESPIRATORY PHYSICS**
This course is an introduction to the field of Respiratory Care. Instruction includes: the historical perspective of respiratory care professional organizations, and the principles of physics, as they apply to respiratory care. The theory and laboratory applications for: cylinders, regulators, flowmeters, analyzers, blenders, oxygen administration devices, aerosol and humidity therapy and nebulizers will be presented. A programmed presentation for medical terminology, mathematics, and computer applications are also presented. Prerequisites: BIO:207 and CHM:101 and MTH:124 or higher and Reading Proficiency.

**RTH:121 ORIENTATION TO THE HOSPITAL**
Topics to be covered in this course include: hospital and departmental organization, medical ethics, patient's rights, legal responsibilities, and hospital visitation. Theory, application and equipment for patient assessment and life vital signs. Prerequisite: Admission to the program and Reading Proficiency.

**RTH:125 AIRWAY MANAGEMENT**
Anatomy and physiology of the upper and lower airway. Theory, application and equipment for the management of the airway for the conscious and unconscious patient. Topics to include: artificial airways, resuscitation devices, chest physiotherapy, and secretion removal. Prerequisite: RTH:120 and Reading Proficiency.

**RTH:126 INTRODUCTION TO MECHANICAL VENTILATION**
This course will present information relevant to positive pressure techniques, and how they are applied in mechanical ventilatory support. Basic indications and hazards of positive pressure therapies will be presented along with the technical components of intermittent positive pressure breathing, non-invasive positive pressure support, adult and pediatric mechanical ventilators. A two-hour per week laboratory session will enable the learner to observe and practice the principles of operation of mechanical ventilators prior to their hospital experience. Practice in the patient simulator laboratory is also included. Prerequisites: RTH:120 and RTH:121 and Reading Proficiency.

**RTH:127 RESPIRATORY PHARMACOLOGY**
Basic pharmacologic principles, classification of drugs, the effects, side-effects, and hazards of the medications used in cardiopulmonary medicine. Prerequisite: Admission to program; must hold a certificate or degree from an allied health program, or waiver from program director and Reading Proficiency.

**RTH:128 ARTERIAL BLOOD GASES**
The application of Henderson-Hasselbach Equation, oxygen dissociation curve, oxygen uptake, transport, and consumption, oxygen and carbon exchange, renal physiology, and arterial and venous gas tensions. Clinical application of obtaining arterial samples, and interpretation of results. Prerequisite: Admission to program; must hold a certificate or degree from an allied health program or waiver from program director and Reading Proficiency.

**RTH:131 PEDIATRIC RESPIRATORY CARE**
This course provides a presentation on pediatric and neonatal respiratory care to include; embryonic development of the cardiopulmonary system, cardiopulmonary malformations, and lung disease. The course will also cover the technical aspects of assessment, equipment, and maintenance of pediatric neonatal respiratory care devices, including mechanical ventilator systems. A two-hour per week laboratory session will enable the learner to observe and demonstrate the skills essential to pediatric and neonatal respiratory care. Prerequisites: RTH:128 and RTH:140 and BIO:208 and Reading Proficiency.

**RTH:140 RESPIRATORY CARE CLINICAL I**
Application of respiratory care principles in the hospital setting. Prerequisite: RTH:120 and RTH:121 and Reading Proficiency.

**RTH:146 CLINICAL LEVEL II**
Application of respiratory care principles in the hospital. Prerequisite: RTH:126, RTH:128 and RTH:140 and Reading Proficiency.

**RTH:220 PULMONARY PATHOPHYSIOLOGY**
The etiology, pathology, symptomology, and treatment of various lung diseases, to include: C.O.P.D., asthma, restrictive lung disorders, infectious lung diseases, occupational lung diseases, pulmonary neoplasms, and pulmonary manifestations of other disease states. Prerequisite: Admission to the program; must hold certificate or degree from an allied health program or waiver from program director and Reading Proficiency.

**RTH:221 CRITICAL CARE MONITORING**
The theory and clinical aspects of invasive and noninvasive hemodynamic monitoring to include: anatomy and physiology of the heart and vascular systems, equipment, procedures, and interpretation of results, the theory, application, and interpretation of basic electrocardiography. Prerequisite: RTH:126 or waiver from program director and Reading Proficiency.

**RTH:222 CARDIOPULMONARY PHYSIOLOGY**
A detailed discussion of the normal physiologic principles utilized by the cardiopulmonary system, to include: neurogenesis of breathing, reflexes governing respiration, properties of elastance, resistance, compliance, and conductance, the physiologic properties of the pulmonary and systemic vascular systems. Prerequisite: Admission to program; must hold a certificate or degree from an allied health program or waiver by program director and Reading Proficiency.

**RTH:223 MECHANICAL VENTILATION: A CLINICAL APPROACH**
This course will cover the clinical applications of mechanical ventilation, to include; ventilator commitment, discontinuance and weaning techniques, the maintenance of a patient on a mechanical ventilator, and the hazards and side effects of positive and negative pressure mechanical ventilation, and the management of chronic ventilator-dependent patients. Recent development in mechanical ventilation such as inverse-ratio ventilation, APRV, and the interpretation of waveform graphics will also be covered. Demonstrations in the patient simulator laboratory are mandatory. Prerequisites: RTH:126 and RTH:128 and Reading Proficiency.

**RTH:225 PULMONARY FUNCTION TESTING**
The theory and equipment for the purpose of diagnosing respiratory pathologies through the measurement of lung gas volumes, capacities, and flows. Includes evaluation through stress (exercise) testing and pulmonary rehabilitation. Prerequisites: RTH:220 and RTH:222 and Reading Proficiency.

**RTH:228 N.B.R.C. REVIEW**
A comprehensive review of the major components of respiratory care as they apply to the NBRC matrix for the entry-level and advanced practitioner exams. Including testing methodologies, strategies, evaluators, and simulated testing experiences; extensive simulated testing for entry-level, written and clinical simulations. Prerequisite: Admission to program and Reading Proficiency.

**RTH:240 RESPIRATORY CARE CLINICAL III**
Application of respiratory care principles in the hospital setting. Prerequisite: RTH:146 and Reading Proficiency.
RTH:245 RESPIRATORY CARE CLINICAL IV  2
Application of respiratory care principles in the hospital setting. Prerequisite: RTH:220, RTH:221, RTH:222, RTH:223 and RTH:240 and Reading Proficiency.

RTH:246 BASIC NEUROLOGIC ANATOMY AND PHYSIOLOGY  2
This course is designed to give the student basic knowledge of the brain as it applies to sleep and sleep disorders. Prerequisite: Admission into the program and AAS degree or higher in a Health Sciences, or approval of program director and Reading Proficiency.

RTH:247 POLYSOMNOGRAPHY EQUIPMENT AND TESTING I  2
This course will present information relevant to the equipment required for polysomnographic testing to include: multi-channel recorders, transducers, electrodes, physiologic monitors, and calibration of the equipment. Pre-requisites: Admission into the program and an AAS degree or higher in a Health Science, or approval of program director and Reading Proficiency.

RTH:248 POLYSOMNOGRAPHY CLINICAL LEVEL I  1
This course is designed to give the student the basic knowledge in setting-up the equipment and patient for a polysomnographic examination. The student will go to an area sleep laboratory, and observe and participate in a predetermined number of patient tests. Skill development includes: equipment preparation, calibration, and patient set-up. Prerequisites: Admission into the program and an AAS degree or higher in a Health Science or approval of program director and Reading Proficiency.

RTH:249 NEUROPATHOLOGY AND SLEEP MEDICINE  2
This course is designed to give the student the basic knowledge related to the disease processes and conditions which adversely affect sleep, and how these conditions interfere with health. Neurologic neuromuscular, and upper airway problems will be discussed. Etiologies, clinical presentation, diagnosis and treatment will be covered for each condition. Prerequisites: Admission into the program and an AAS degree or higher in a Health Science or approval of program director and Reading Proficiency.

RTH:250 POLYSOMNOGRAPHY EQUIPMENT AND TESTING II  2
This course is designed to build upon the concepts and skills presented in Equipment and Testing I, which include basic function and calibration of the equipment, setting-up the monitors and patient for a polysomnographic examination. This course will present information and skill development in performing the test, quality assurance, and reporting test results via paper copies or computer-generated results. Pre-requisites: Admission into the program and an AAS degree or higher in a Health Science or approval of program director and Reading Proficiency.

RTH:251 POLYSOMNOGRAPHY CLINICAL LEVEL II  1
The student will observe and participate in a predetermined number of polysomnographic examinations. The student will prepare the patient for the exam, and will operate the equipment to assure the data collected is accurate and valid. When ordered by a physician, the student will initiate supplemental oxygen therapy, and/or positive airway pressure therapy. Prerequisites: Admission into the program and an AAS degree or higher in a Health Science or approval of program director and Reading Proficiency.

RTH:252 POLYSOMNOGRAPHIC TEST INTERPRETATION AND SCORING  2
This course is designed to give the student the knowledge required to provide a basic interpretation for any polysomnographic exam. Course content includes interpretation of normal and abnormal values, and interpretation of abnormalities and artifacts, in accordance with standard nomenclature, and scoring of the exam. Prerequisites: Admission into the program and an AAS Degree or higher in a Health Science or approval of program director and Reading Proficiency.

RTH:253 AMERICAN POLYSOMNOGRAPHY NATIONAL BOARD PREPARATION  1
This course is designed to give the student the information required to prepare for the National Sleep-testing Board Examination. Content includes: purpose of board exams and exam construction, examination matrix, review of major testing areas, and simulated examinations. Prerequisites: Admission into the program and an AAS degree or higher in a Health Science or program director approval and Reading Proficiency.

RTH:254 POLYSOMNOGRAPHY CLINICAL LEVEL III  1
This course is designed to enable the student to become proficient in all aspects of sleep testing. The student will go on an area sleep lab and prepare the patient and equipment for a test, perform the examination, record the data, and provide a basic interpretation and score for the exam. Prerequisites: Admission into the program and an AAS degree or higher in a Health Science or program director approval and Reading Proficiency.

RUS:101 ELEMENTARY RUSSIAN I  4
The beginning course presents the basic sentence structure and vocabulary necessary to participate in elementary Russian conversation and to begin reading short Russian passages. Emphasis is on the use of Russian in everyday situations. Prerequisite: Reading Proficiency.

RUS:102 ELEMENTARY RUSSIAN II  4
This course is a continuation of RUS:101. Students complete the basic elements of Russian grammar, increase their vocabulary and gain added facility in speaking and reading Russian. Prerequisites: RUS:101 and Reading Proficiency.

SAF:100 SAFETY PROGRAM ORGANIZATION AND ADMINISTRATION  3
An introduction to provide the essential knowledge and skills to organize and operate an effective safety program for any size company and type of industry. Course topics include management responsibilities, accident investigation and analysis, recording and reporting occupational injuries and illnesses, making safety inspections, personal protective equipment, job safety analysis, fire prevention and control, and sources of help for the safety professional and management. Prerequisite: Reading Proficiency.

SAF:101 SAFETY AND HEALTH STANDARDS, REGULATIONS AND CODES  3
A course dealing with the Williams-Steiger Occupational Safety and Health Act (OSHA). Course reviews all aspects of the OSHA regulations including how standards are developed, source of current standards and how the federal safety program is administered. OSHA standards are reviewed to provide an understanding of what the law requires. Prerequisite: Reading Proficiency.

SAF:102 PLANT AND EQUIPMENT LAYOUT  3
A study of techniques of planning a variety of operations required by a comprehensive safety program including plant construction, layout and process arrangement. Important elements of the course are good plant housekeeping, adequate illumination, color, dynamics, human factors engineering and general safety considerations. Prerequisite: Reading Proficiency.
SAF:103 OPERATION - HAZARDS AND CONTROLS 3
An examination of the hazards connected with various industrial operations and dealing with the safe control of those hazards. Areas covered are machine guarding principles, techniques and methods of grounding electrical equipment, the safe use of compressed air and gases, and the hazards associated with the use of hand and power tools. Pre requisite: Reading Proficiency.

SAF:200 MATERIALS HANDLING SAFETY 3
Injury and property damage aspects of materials handling, control or elimination of hazards in various methods of handling materials, including manual hoists, conveyors, transporters, and railways. Pre requisite: Reading Proficiency.

SAF:201 OCCUPATIONAL SAFETY ENGINEERING TECHNIQUES 3
A study of the principles and philosophy of occupational safety engineering techniques. This course includes methods of identifying and controlling occupational hazards in an industrial environment. This course also includes knowledge and application of job safety and hazard analysis techniques; human factors engineering and system safety analysis methods. Pre requisite: Reading Proficiency.

SAF:202 ELEMENTS OF INDUSTRIAL HYGIENE 3
A study of environmental energy and chemical hazards including gases, vapors, fumes, dusts, and mists. Also stresses the importance of protective clothing and equipment when physical corrections cannot be made. The course includes basic concepts of chemistry and physics that are fundamental to the control of chemical and energy hazards. Some attention is given to the principles of ventilation control. Pre requisite: Reading Proficiency.

SAF:203 MOTOR FLEET SAFETY 3
An introduction to vehicle and traffic safety including a study of federal, state and local regulatory requirements. Also covered is the management of various firms using different types of commercial and industrial vehicles, driver safety programming including driver selection, training, supervision, records; vehicle accident investigation and statistical analysis, vehicle preventive maintenance and safe driver incentive programs. Pre requisite: Reading Proficiency.

SKILLED TRADES

SKT:100 BASIC RIGGING 3
This course presents an overview of industrial rigging procedures (safety, hand signals) and equipment (types and components). Specific equipment studied includes cranes, wire ropes, chains, slings, hoists, wrenches, rollers, jacks, and related hardware and devices. Pre requisite: Reading Proficiency.

SOCIOLOGY

SOC:100 HUMAN RELATIONS 3
This course is designed to investigate interpersonal relationships. The focus is on the sociological and psychological factors which influence persons in their associations and interactions with other members of contemporary society. Discussions involve current developments in society, their causes, events and possible changes. Pre requisite: Reading Proficiency.

SOC:101 INTRODUCTION TO SOCIOLOGY 3
The factors which determine social organization and behavior are considered in this course. Study is concentrated on the social interaction of individuals with one another, of individuals with groups and of groups with one another. Consideration is given to culture, social classes, population, institutional life and major trends in sociology. Pre requisite: Reading Proficiency.

SOC:102 INTRODUCTION TO SOCIOLOGY - HONORS 3
The factors which determine social organization and behavior are considered in this course. An in-depth study is concentrated on the social interaction of individuals with one another, of individuals with groups and of groups with one another. Consideration is given to culture, social classes, population, institutional life and major trends in sociology. Pre requisite: Reading Proficiency.

SOC:103 HUMAN BEHAVIOR AT WORK AND IN BUSINESS 3
Course framework will be the organization and what people must do to become more effective within it. Focus will be in five major areas: self-concept development, listening skills, expression, conflict resolution, and interpersonal skills. Pre requisite: Reading Proficiency.

SOC:125 HUMAN SEXUALITY 3
Sexuality includes not only the biological component of male and female sexuality, but also attitudes, values and feelings about one’s own gender and sex role. Consequently, in dealing with sex as a natural biological function, the expression of which is a dimension of psychological behavior, the sexual development and/or differentiation of men and women from conception to maturity will be stressed. (Same course as BIO:122 and PSY:125.) Pre requisite: Reading Proficiency.

SOC:126 STUDY OF PSYCHODYNAMIC SUBSTANCES 3
This course will focus on the properties of drugs as chemicals and their impact on the body and mind. The history of drug use and abuse, issues surrounding addiction, factors that indicate a high risk to addiction and the interaction of drugs with each other will be examined. Pre requisite: Reading Proficiency.

SOC:201 ASPECTS OF AGING 3
Examines the factors and forces that affect life quality in the late years. The physiological, psychological, and sociological aspects of aging will be considered, including those influences in the cultural context that enhance and impede continued growth of the person. Pre requisite: SOC:101 or PSY:200 or HMS:100 and Reading Proficiency.

SOC:202 AMERICAN SOCIAL PROBLEMS AND ISSUES 3
A study of select social problems, including consideration of proposed lines of action in dealing with them. Problem areas include population, the affluent society, poverty, urban renewal, delinquency and crime, automation, the aged, ethnic and racial relations and the role of the United States in relationship to the underdeveloped areas of the world. Pre requisite: SOC:101 or SOC:102 and Reading Proficiency.

SOC:203 CRIMINOLOGY AND DEVIANCE 3
The perspective of this course is that of crime and deviance as normal aspects of the functioning of a society. In addition to the traditional focus on the criminal and the deviant, the course will examine societal forces which create crime and deviance and societal responses to them. Pre requisite: SOC:101 or SOC:102 or permission of instructor and Reading Proficiency.

SOC:204 MARRIAGE AND THE FAMILY 3
This course is a review of the historical development of the family, an analysis of the family living in modern society including preparation for marriage and the factors involved in marital success. Pre requisite: SOC:101 or SOC:102 and Reading Proficiency.

SOC:211 ALCOHOLISM AND DRUG ABUSE 3
Course focuses on nature, causes, treatment and prevention of alcoholism and drug abuse. Strategies of education and treatment will be reviewed. Course designed to deal with problems encountered either personally or professionally. Course also looks at social and cultural factors in alcoholism and drug abuse. Pre requisite: Reading Proficiency.

SOC:212 RACE AND ETHNICITY 3
A sociohistorical examination of race and ethnic group relations focusing on the forms and processes of assimilation, cultural diversity, causes of racial conflict and factors which promote racial harmony. Includes an assessment of the contemporary status and future prospects of major ethnic groups in American society. Pre requisite: SOC:101 or permission of instructor and Reading Proficiency.
SPANISH

SPA:101 ELEMENTARY SPANISH I 4
A beginning course presenting the basic sentence structure and vocabulary necessary to participate in elementary Spanish conversations and to begin reading short Spanish passages. Prerequisite: Reading Proficiency.

SPA:102 ELEMENTARY SPANISH II 4
A continuation of SPA:101. Students complete the basic elements of Spanish grammar, increase their vocabulary and gain added facility in speaking and reading Spanish. Prerequisite: SPA:101 or 2 years of high school Spanish and Reading Proficiency.

SPA:103 BASIC SPANISH CONVERSATION I 3
Construction and practice in fundamental vocabulary, basic sentence structures and social conventions necessary for simple interpersonal communication in Spanish. Emphasis is on the use of Spanish in everyday situations. Prerequisite: Reading Proficiency.

SPA:104 BASIC SPANISH CONVERSATION II 3
A continuation of SPA:103. Further practice in speaking the language through the acquisition of new vocabulary and the learning of Spanish sentence structure. Prerequisite: SPA:103 and Reading Proficiency.

SPA:106 INTRODUCTION TO LATIN AMERICAN CIVILIZATION 3
An introduction taught in English to the civilization and cultural heritage of Latin America. Some sample topics: racial problems, past and present relationships with the United States, literacy and artistic contributions. Prerequisite: Reading Proficiency.

SPA:116 COSTA RICA: THE LAND AND ITS PEOPLE 3
This course is designed to give students who participate in "the study abroad" in Costa Rica the opportunity to learn about the land and the cultural heritage of the Costa Rican people. Some samples to present are: racial and religious issues, political system, past and present relationships with neighboring countries and with the U.S. Prerequisite: Reading Proficiency.

SPA:201 INTERMEDIATE SPANISH I 4
A continuation of SPA:102. Emphasis is on speaking Spanish. A review of grammar assists the student in perfecting basic skills. A variety of up-to-date literary and cultural selections are read and topics for classroom discussions. Prerequisite: SPA:102 or 3 or more years of high school Spanish and Reading Proficiency.

SPA:202 INTERMEDIATE SPANISH II 4
A continuation of SPA:201. Emphasis remains on the spoken language. A variety of literary and cultural selections are read and discussed in class in Spanish. Prerequisite: SPA:201 or 4 or more years of high school Spanish and Reading Proficiency.

SPA:203 INTERMEDIATE SPANISH CONVERSATION I 3
An intermediate level course which stresses Spanish while both introducing new grammatical forms and reviewing previously studied structures. Prerequisite: SPA:202 or SPA:104 or two or more years of high school Spanish and Reading Proficiency.

SPA:204 INTERMEDIATE SPANISH CONVERSATION II 3
An intermediate level Spanish conversation class designed to develop more confidence in oral Spanish by discussion of written materials in Spanish. Prerequisite: SPA:201 or two or more years of high school Spanish and Reading Proficiency.

SPA:206 ADVANCED SPANISH CONVERSATION AND COMPOSITION 3
Designed to increase written and oral fluency in Spanish, this course gives the student the opportunity to express himself/herself on a wide variety of everyday topics. Short compositions will be written and brief oral reports presented to the class. A relaxed, informal atmosphere is created to stimulate conversation. Prerequisite: SPA:202 and Reading Proficiency.

SURGICAL TECHNOLOGY

ST:104 PHARMACOLOGY FOR SURGICAL TECHNOLOGISTS 2
The course is designed to provide the student with learning opportunities which will enable him to apply scientific principles of the logic science of pharmacology. Emphasis is placed on the relationship of drugs to the surgical patient. Prerequisite: Must be enrolled in Surgical Technology program and Reading Proficiency.

ST:105 FUNDAMENTALS OF SURGICAL TECHNOLOGY 4
This course provides the student with skills necessary to function as a surgical technologist. Laboratory experience is focused so the student will achieve a satisfactory level of performance in gowning and gloving, surgical scrub, establishing and maintaining asepsis, draping, instrumentation, and proper care of the surgical patient. Students learn to work with and care for surgical equipment and supplies in both scrub and circulating roles. Students spend five hours per week at clinical site. Course will correlate with ST:101 so student may apply principles of theory and practice. Pre requisite: ST:101 to be taken concurrently with ST:105. Must be enrolled in the Surgical Technology program and Reading Proficiency. 155 lab/clinical hours. 64 open lab hours.

ST:108 INTRODUCTION TO SURGICAL TECHNOLOGY 6
This course will introduce the student to the field of surgical technology. Topics will include principles of aseptic technique and patient care in the operating room. Responsibilities and functions of the surgical technologists in the pre, intra-, and post operative phases will be discussed. Corequisite: ST:105. Prerequisite: Must be enrolled in the Surgical Technology program and Reading Proficiency.

ST:109 PRINCIPLES OF OPERATING ROOM COMMUNICATION 2
This course will address the modes of communication in the operating room, specifically focusing on medical/surgical terminology and computer technology utilization. Corequisite: ST:108. Prerequisite: Must be enrolled in Surgical Technology program and Reading Proficiency.

ST:110 SURGICAL PROCEDURES I 4
This course will introduce the surgical technology student to the principles of surgical intervention and patient care considerations in multiple specialty areas. Pathophysiology, diagnostics, prognosis and complications of procedures will be addressed. Corequisite: ST:111. Pre requisite: ST:108 and must be enrolled in the Surgical Technology program and Reading Proficiency.

ST:111 SURGICAL TECHNOLOGY CLINICAL I 8
This course involves application of surgical technology principles in the hospital setting. Corequisite: ST:110. Prerequisites: ST:108 and ST:105 and Reading Proficiency.

ST:207 TECHNOLOGICAL SCIENCES FOR THE OPERATING ROOM 1
This course will introduce the surgical technology student to the basics of physics, electricity and robotics in relationship to operating room advanced technology and equipment. Prerequisite: Must be enrolled in Surgical Technology program and Reading Proficiency.

ST:210 SURGICAL PROCEDURES II 2
This course is a continuation of Surgical Procedures I. Surgical procedures in advanced specialty areas will be introduced to the student. Content will include related pathophysiology, diagnostics, prognosis and complications. Corequisite: ST:211. Pre requisites: ST:210 and must be enrolled in the Surgical Technology program and Reading Proficiency.

ST:211 SURGICAL TECHNOLOGY CLINICAL II 4
This course involves advanced application of surgical technology principles in the hospital setting. Corequisite: ST:210 Prerequisites: ST:110 and ST:111 and Reading Proficiency.
TECHNICAL GRAPHICS

TGR.100  TECHNICAL ILLUSTRATION  3  Students in this course will learn pictorial line illustration. This type of illustration is used extensively in repair and service manuals, parts catalogs, and user manuals. Computer methods will be used for producing illustrations. Prerequisite: Reading Proficiency.

TGR.102  INTERACTIVE MEDIA  3  Multimedia can add another dimension to electronic documentation, product information and computer-based training. The process of planning and developing a multimedia project draws on new skill sets. Students will methods of producing interactive media for CD ROM and web delivery. The hands-on course will explore hot spotting, linking and logic tree structure for the production of interactive computer based training as well as interactive business communication. Prerequisite: ART.122 and Reading Proficiency.

TGR.201  ADVANCED TECHNICAL ILLUSTRATION  3  This advanced course in technical illustration will teach pictorial line illustration. This type of illustration is used extensively in repair and service manuals, parts, catalogs, and user manuals. A series of projects will include exploded parts draw, maintenance illustration, cut away and ghosting. Computer methods will be used for producing illustrations. Prerequisites: EGR.100 and TGR.100 and Reading Proficiency.

TGR.202  WRITING FOR TECHNICAL PUBLICATIONS  3  This course offers a survey of how the efforts of a technical writer and technical illustrator fit into the scheme of producing a technical publication from concept stage to delivery of on-line computer documentation and printed copies. At each stage the importance of coordination between writer and illustrator is shown by examples consisting of workshop-like exercises. Prerequisites: ENG.100 or ENG.101 and Reading Proficiency.

TGR.204  SCHEMATIC AND SYMBOLIC ILLUSTRATION  3  This course introduces to the illustrator various techniques used in the preparation of finished computer ready, electrical schematic illustrations; wiring diagrams, and functional illustrations. Various levels (usage) of schematic illustrations will be studied depicting proper flow of data; power source, control and units being controlled. This will include: use of special electrical templates libraries, definition of electrical symbols, logic symbols, and pneumatic symbols; and conversion of complex system illustration into simple diagrams. Prerequisites: EGR.100 and ART.122 and Reading Proficiency.

TGR.205  TECHNICAL PUBLICATION  3  This course progresses through a step-by-step process from beginning to the end product of a technical publication. Students will make use of computers and other electronic imaging equipment to merge graphics and text to produce chemical documents and publication. Prerequisites: TGR.100, TGR.201 and TGR.102 and Reading Proficiency.

TGR.206  PORTFOLIO AND JOB APPLICATIONS  3  This is the last course students take in the Technical Graphics program. Students will finalize their portfolio in a professional format. Students will learn strategies for finding work in their career field. Strategies include interview techniques, resume writing, letter writing and making the use of the Internet for resume and portfolio distribution. Prerequisites: TGR.201 and TGR.205 and Reading Proficiency.

TGR.208  CO-OP WORK EXPERIENCE I - TECHNICAL GRAPHICS  3  A cooperative education work experience consists of a work assignment with an employer or agency (minimum of 15 hours per week), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisites: TGR.100, EGR.145 and TGR.102 and Reading Proficiency.

CO-OP WORK EXPERIENCE II - TECHNICAL GRAPHICS  3  A cooperative education work experience consists of a work assignment with an employer or agency (minimum of 15 hours per week), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisite: TGR.207 and Reading Proficiency.

TGR.209  CO-OP WORK EXPERIENCE III - TECHNICAL GRAPHICS  3  A cooperative education work experience consists of a work assignment with an employer or agency (minimum of 15 hours per week), which allows students to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and by a faculty member. Prerequisite: TGR.208 and Reading Proficiency.

TELECOMMUNICATIONS

TEL.103  INTRODUCTION TO TELECOMMUNICATIONS  3  An introduction to the types of electronic communication systems, the basic concepts of their operation and how they send and receive information is emphasized in this course. Prerequisite: Reading Proficiency.

TEL.104  VOICE COMMUNICATIONS  3  A development of characteristics of voice communication systems. Topics include transmission levels, loss, and frequency response, noise and crosstalk, return loss and echo, longitudinal balance, distortion, and standards organizations. Prerequisite: EE.110 and TEL.103 and Reading Proficiency.

TEL.105  FIBER OPTIC FUNDAMENTALS  1  This course will introduce the student to basic theory of fiber optics and its application in the communications industry. This course will teach the student on the selection and use of cables and connectors. The student will have demonstrations and hands-on experience using the 3M Hot Melt Connectors, splice connections, and test equipment to ensure they have a maximum light transfer from one service to another. Prerequisite: Reading Proficiency. 10 lecture hours total.

TEL.205  DIGITAL SWITCHING AND TRANSMISSION  3  An analysis of the methods used to send data including voice from one point to another. Topics include encoding signals, time division multiplexing, T1 transmission, digital switching matrices, and Integrated Services Digital Network. Pre requisite: TEL.104 and Reading Proficiency.

TEL.206  NETWORK TOPOLOGY  3  Course covers various communications networks. Topic include T-1 systems, local area networks, wide area networks, internetworking, and synchronous optical networks. Pre requisite: TEL.104 and Reading Proficiency.

TEL.207  TRANSMISSION MEDIA  5  This course covers the basics of how signals can be transmitted and the factors that distort and attenuate those signals. Topics include how signals are measured, noise, and types of transmission media such as wire lines, optical fibers, and satellite transmission. Prerequisite: TEL.104 and Reading Proficiency.

TEL.208  TELECOMMUNICATIONS: TESTING METHODOLOGIES  5  The course covers the types of measurements and tests on telecommunication facilities, the components in those systems and typical failure modes. Tests on subscriber loops, trucks, and fiber-optic lines are covered, as well as switching machine, user terminal, and transmission device testing. Prerequisite: TEL.205 and TEL.207 and Reading Proficiency.
TEL:209  TELECOMMUNICATION SYSTEM OPERATIONS  3
The course covers the installation, maintenance and repair of equipment in the central office. Prerequisite: TEL:205 and TEL:207 and Reading Proficiency.

THEATRE

THT:101  INTRODUCTION TO THEATRE  3
A course designed to enhance the enjoyment of theatre going. Students study the nature of theatre as a composite art form, including and investigation of the function of playwright, actor, director, and designer in the traditional forms of theatre. Prerequisite: Reading Proficiency.

THT:102  STAGECRAFT  3
The purpose of this course is to study the technical areas of theatre production: emphasis will be on scenery construction and rigging; paints and the painting of scenery; stage lighting; costume design; and construction. Included will be a survey of terminology and equipment for the stage. Prerequisite: Reading Proficiency.

THT:103  STAGE DESIGN AND LIGHTING  3
This course investigates the function of the technical designer in the theatre. This course will be related to actual production in the college theatre and includes instructions in set drawings, lighting plots, and lighting. Prerequisite: Reading Proficiency.

THT:104  THEATRE PRACTICUM  1
Practical application of acting (when cast) and production techniques. Assignments are made on an individual basis. Prerequisite: Reading Proficiency.

THT:105  THEATRE PRACTICUM  2
Practical application of acting (when cast) and production techniques. Assignments are made on an individual basis. Prerequisite: Reading Proficiency.

THT:106  THEATRE PRACTICUM  3
Practical application of acting (when cast) and production techniques. Assignments are made on an individual basis. Prerequisite: Permission of instructor required and Reading Proficiency.

THT:107  PLAYWRITING  3
This course explores the fundamental processes of playwriting. It will provide the beginning student with opportunities to investigate the concepts of dialogue, plot, characterization, mood, conflict and setting as they relate to writing for the theatre. Prerequisite: Reading Proficiency.

THT:108  ACTING I  3
Emphasis on application of principles of theory of creative acting. Exercises in movement and voice are integrated with improvisational techniques. Prerequisite: Reading Proficiency.

THT:109  ACTING II  3
Continuation of THT:108. Performance of scenes from both classical and contemporary plays is required in class. Emphasis is on individual development in the use of principles and styles of acting. Prerequisite: Reading Proficiency.

THT:110  HISTORY OF THEATRE  3
A survey of the development of the theatre from its beginnings to the present. Emphasis on the periods in history in which most significant contributions to the theatre were made. Prerequisite: Reading Proficiency.

THT:115  ACTING FOR THE CAMERA  3
This course includes the following: (1) exploration of the aesthetics and principles of acting for the camera; (2) analysis of diverse acting styles and outstanding performances in film and television; and (3) acting exercises for the camera. Some acting exercises will be videotaped and edited for analysis. Prerequisite: Reading Proficiency.

TOURISM

TUR:104  TRAVEL AND TOURISM FOUNDATIONS I  6
This course is designed to provide non-automated, foundational knowledge for those entering the travel and tourism industry. Students will learn the codes, terms, definitions, organizations, city/countiylocations, and resources references that pertain to the various components of the industry. Prerequisite: Reading Proficiency or concurrent enrollment in RDS:030 or ENG:070.

TUR:105  TRAVEL AND TOURISM FOUNDATIONS II  10
This course is the second component to the Travel and Tourism Foundations training. It is designed to provide automated, foundational knowledge for those entering the travel and tourism industry. Students will learn how to utilize a live GDS (Global Distribution System) and the Internet to acquire information and construct travel reservations. Prerequisite: Prior or concurrent enrollment in TUR:104 and Reading Proficiency or concurrent enrollment in RDS:030 or ENG:070.

TUR:106  DOMESTIC/INTERNATIONAL GEOGRAPHY AND LANDMARKS  3
This course is a survey of U.S. and world travel destinations, examining natural and manmade landmarks that attract tourists to popular cities, states, territories, and countries. The purpose of the course is to make students familiar with the saleable aspects of an area, so they can match destinations with traveler wants and needs. Prerequisite: Reading Proficiency.

TUR:201  CONVENTION AND MEETING PLANNING  3
This course is designed for those people in an association or business who are responsible for planning meetings, conferences and conventions. The material in this course will cover negotiations with hotels and airlines, site inspection and selection, housing systems, conference and meeting facility needs, programs, speakers, banquets, receptions and breaks, displays and exhibits, entertainment and recreation, spouse programs, video-conferences, budgeting, audio-visual equipment, advertising and promotion, personal development. The course will consider the difference between planning for a business or planning for an association. Prerequisite: Reading Proficiency.

TUR:205  CASINO MANAGEMENT AND OPERATIONS  3
This course is designed to familiarize students with the operations and management of casinos. Special emphasis is placed on staffing and entertainment. Prerequisite: Reading Proficiency.

TUR:223  SELLING LEISURE CRUISES AND TOURS  3
This course will provide students with a knowledge base that is necessary to effectively sell leisure cruises and tours. Class will study the types of cruises and tours, popular cruise and tour destinations, traveler profiles, and leisure travel trends. It will cover the sales process and acquaint students with some of the brochures and websites of leading cruise and tour companies. Prerequisite: Reading Proficiency.

TUR:230  INTERNATIONAL TRAVEL AND WORLD ISSUES  3
The course will provide students with the essentials in international travel, including currencies, customs, immigration, insurance, time zones, passports and visas. Students will also learn how world issues and events influence the flow of travelers between countries. Prerequisites: TUR:104, TUR:105, TUR:106 and Reading Proficiency.

TUR:235  CERTIFIED TRAVEL ASSOCIATE (CTA) PREP COURSE AND TEST  3
The course is designed to prepare students for ICTAs first level of certification, the CTA program, to meet the needs of travel professionals in the early stages of their careers. The CTA program focuses on the knowledge and the sales skills necessary for effective practice in the travel industry. It covers four core skill areas: communication and technology, geography, sales and service, and travel industry trends. Prerequisites: Department Chair approval and Reading Proficiency.
TUR:236  PRACTICUM - TRAVEL AND TOURISM  3
The course provides students with a supervised framework to gain practical field experience in the travel and tourism industry. Students are required to complete 150 hours of work in a relevant atmosphere, while attending weekly classroom discussions covering job search and job performance topics. Prerequisite: Department Chair approval and Reading Proficiency.

WOMEN’S STUDIES

WMS:100  INTRODUCTION TO WOMEN’S STUDIES  3
This course is an introduction into the field of Women’s Studies. Women’s issues are explored from a variety of disciplines. An emphasis will be placed on personal experience and its relationship to larger social structures. The focus of this course is to develop a sense of empowerment and critical thinking in students. Prerequisite: Reading Proficiency.
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John Ferlisi, A.A.S., Supervisor/Buildings and Grounds
Laura Stevens, M.A., Manager/Auxiliary Services

John Ferlisi, A.A.S., Supervisor/Buildings and Grounds
Laura Stevens, M.A., Manager/Auxiliary Services
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David Risch, Ph.D., C.P.A., Professor

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James Gormley, M.F.A., Associate Professor
Robert Langnas, M.F.A., Associate Professor
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