

Kirkwood Community College
2009-2011 Catalog

Start Here.
Go Anywhere!

Start Here. Go Anywhere!

With global vision and innovative curriculum, Kirkwood is redefining the role of the community college. At Kirkwood, you really can start here and go anywhere!



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Our Mission
Consistent with the philosophy held by the college and in accordance with the charge given it by the State of Iowa as an institution of higher education and in concert with other agencies:

Kirkwood Community College
Identifies community needs
Provides accessible, quality education and training
Promotes opportunities for lifelong learning

Our Vision
Invent, develop and deliver learning solutions for the 21st century.

Our Beliefs
Trust and honesty
Mutual respect and support
Open communication
Dedication to the people we serve

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Welcome to Kirkwood



On behalf of our Board of Trustees and the entire leadership group here at Kirkwood Community College, we welcome you to what we hope will be an extraordinary and life-changing experience. In so many ways we fervently believe that Kirkwood is strongly, positively unique in our service and commitment to the community. Here are a few of the ways we believe in the Kirkwood Difference.

First, we at Kirkwood strive to provide learning and education of the highest quality, while maintaining access and opportunity for all. We have more than 120 programs and major fields of study that prepare our students for promising careers or as a springboard to their next level of higher education. From Accounting and Ag Business to Veterinary Technician and Web Technologies, we have the choices and opportunities to help you achieve goals for the next year – or the rest of your life. Plus, our Financial Aid, Advising and Counseling areas stand by to do their part as needed.

You will also find that our college reflects not only our neighboring communities in the Cedar Rapids-Iowa City Corridor, but also the entire world. Kirkwood is a leader in partnerships that bring bright people from around the globe to our area to learn, grow and share their knowledge, too. We believe the simple act of sharing a classroom, lab and café lunch is enriching for all involved. Plus, hundreds of our students experience life-changing journeys through our Study Abroad programs each year.

We have been making great strides in putting smart technologies and forward-thinking teaching methods to work, too. You'll find high-tech medical simulators, advanced manufacturing lab equipment and satellite-based information technologies at work all across Kirkwood. As more advances and innovations are created, you can bet they soon will find their way to our classrooms. You could be part of the next chapter in 21st Century learning that we develop and share, from Iowa to the rest of the world.

But beyond all those fine things, the best thing you will find at Kirkwood is that we are all learning together. Don't be surprised if one of your professors is also studying for a more advanced degree. Watch closely and you may see two or even three generations of students all applying themselves in the classroom. We also believe some of the richest college experiences take place on an intramural playing field, in a concert hall or volunteering to help those in need. Those opportunities will soon come your way. Do yourself a favor: say "Yes" to the chance to discover something new about yourself.

Whether you come to Kirkwood to learn one new skill in your profession or to chart new possibilities for the rest of your life, we are glad you're here. You are among the latest people to discover that at Kirkwood, you can Start Here and Go Anywhere!

A handwritten signature in black ink that reads "Mick Starceovich". The signature is written in a cursive, flowing style.

Dr. Mick Starceovich
President

309 Kirkwood Hall
319-398-5501

Kirkwood Locations

Main Campus

319-398-5517 or 800-363-2220

The main campus of Kirkwood Community College is located in Cedar Rapids, Iowa, a metropolitan area of approximately 150,000 residents. U.S. Highways 30, 151, 218 and Interstate 380 run through the city. Kirkwood sits just south of the Highway 30 and I-380 interchange.

Iowa City Campus

319-887-3658

Kirkwood Community College's Iowa City Campus brings academic excellence, first class facilities and a convenient location together to serve its growing student population.

The Iowa City Campus is one of the fastest-growing campuses in Iowa. And even though more than 3,500 students attend there, they haven't lost the friendliness and student focus for which Kirkwood is known.

Services include those listed for center locations, as well as academic and transfer advising, personal counseling, financial aid advising, a cashier for tuition payment and a full-service bookstore.

Center Locations

Kirkwood centers are located in Benton, Cedar, Iowa, Johnson, Jones, Linn and Washington counties. Kirkwood centers offer college credit courses, continuing education classes and high school completion programs to students of all ages. Students can complete all the required courses to earn Associate of Arts degrees through local Kirkwood centers. Classes at each center are

delivered by traditional face-to-face classroom instruction, Distance Learning (Anytime/Anywhere courses) and interactive television instruction.

The centers offer the same services as those available to students at the main campus in Cedar Rapids:

- Advisors who assist students with course schedules.
- COMPASS testing for math and English placement.
- Counseling workshops for anyone thinking about college or career changes.
- Wireless computer access with software required for college credit courses.
- Tutoring for students in college credit classes.

Benton County

Vinton Center

111 West Third Street
Vinton, IA 52349
319-472-2318

Tippie-Mansfield Center

1214 Ninth Avenue
Belle Plaine, IA 52208
319-444-2549

Cedar County

Tipton Center

1410 Cedar Street
Tipton, IA 52772
563-886-3101

Cedar County Resource Center

401 West Ninth Street
Tipton, IA 52772
563-886-3451, ext. 5791

Iowa County

Williamsburg Center

200 West Street
Williamsburg, IA 52361
319-668-2461

Johnson County

Iowa City Campus

1816 Lower Muscatine Road
Iowa City, IA 52240
319-887-3658

Iowa City Learning Center

1810 Lower Muscatine Road
Iowa City, IA 52240
319-887-3656

Jones County

Jones Regional Education Center

220 Welter Drive
Monticello, IA 52310
319-465-5988

Linn County

Lincoln Center

912 18th Avenue SW
Cedar Rapids, IA 52404
319-366-0142

Marion Center

2900 Eighth Avenue
Marion, IA 52302
319-398-1052

Resource Center

1030 Fifth Avenue SE
Cedar Rapids, IA 52403
319-398-1050

Washington County

Washington Center

111 Westview Drive
Washington, IA 52353
319-653-4655

Admissions, Tuition & Financial Aid

Admissions Services

116 Iowa Hall
319-398-5517 or 800-363-2220
info@kirkwood.edu

Kirkwood is proud to maintain an open admission policy, which means enrollment is open to all people with or without a high school diploma.

Applying for Admission

1 Ways to Apply

The fastest way to apply is at www.kirkwood.edu/apply.

Applications may also be faxed to 319-398-4928 or mailed to:

*Enrollment Services
2nd floor Kirkwood Hall
Kirkwood Community College
P.O. Box 2068
Cedar Rapids, IA 52406-2068*

There is no application fee. Select one major or program area to receive more information about completing the admission process.

Some programs require a program conference as part of the admission process. At the program conference, students meet with the program instructors to learn more about the expectations of the program. This is an important step because some programs fill quickly. Program advisors contact students with more information once applications are received.

2 Placement Exams

Kirkwood uses exam results to determine placement in reading, writing and math courses. Submit current ACT scores or take COMPASS, the free Kirkwood placement test. Call 319-398-5456 or a Kirkwood center for testing times. Math scores are valid for two years; reading and writing scores remain valid for three years.

3 Financial Aid

Submit the Free Application for Federal Student Aid (FAFSA) as soon as possible after January 1. Start early – the financial aid process can take three to five months. Go to www.fafsa.ed.gov.

4 Scholarships

Most scholarship applications are accepted from October 1 through March 31. More than \$1 million in scholarship awards is available to all Kirkwood students. Apply at www.kirkwood.edu/scholarships.

5 Housing

Contact the Housing office at 319-398-7647 or www.kirkwood.edu/housing. In addition, the TGIF (To Get Information Fast) campus visits include time to tour available housing.

6 Transcripts

Transfer or returning adult students who want credit for previous course work must provide Enrollment Services with an official transcript from each college or university attended.

Admission to the college does not guarantee acceptance into all programs.

Generally, admission to programs is granted on a continuous basis as applicants complete the required admission procedures. Applicants should apply as soon as they have decided to seek admission. Students can submit applications one year prior to program start dates. (Check the entry time in the program descriptions in this catalog.)

Applications are accepted up to the day of registration in many college programs. However, students should complete their applications well in advance of the semester they plan to enter to gain the maximum pre-enrollment assistance from college staff. Those with college degrees can send their transcripts to Enrollment Services to be used for advising purposes.

College Credit While in High School

College-ready high school students have the opportunity to earn both high school and college credit through an agreement between the local high school district and Kirkwood Community College. With recommendation and approval from the high school district, students who have satisfied the prerequisite course work may enroll in individual classes or a sequence of career emphasis classes. Courses are available within the high school setting, Kirkwood distance learning and online classes or classes held at one of Kirkwood's campus locations throughout the seven-county service area. Students wishing to earn credit, but not through the process above, should contact the Kirkwood's dean of students.

International Programs

Cedar Rapids Main Campus
134 Linn Hall
319-398-5579

Kirkwood's International Programs department is the home of global services. Students come to Kirkwood from more than 101 different countries around the world. This global village on our campus enriches the total learning environment. Students learn how to encounter differences with tolerance, as well as appreciate the rich complexity of our global economy. Students develop a mutual respect and understanding of everyone's interconnectedness throughout the year by participating in special activities as well as study abroad programs. The following resources are available:

- International advising.
- International recruiting with online application.
- Faculty exchanges.
- International grants/special projects.
- International Education Week.
- Diversity Cultural Celebration.
- Study Abroad programs.
- Study Abroad scholarships.

English Language Proficiency

3052 Cedar Hall
319-398-5581
cstamp@kirkwood.edu

To assure that students whose first language is not English are prepared to complete college-level course work, proficiency in English must be demonstrated. These students, including graduates of American high schools, international students, permanent residents, refugees and U.S. citizens, can demonstrate

English language proficiency by earning one of the following:

- ACT composite scores of 15 or higher with English sub scores of 15 or higher.
- SAT verbal scores of 290 or higher.
- Standard TOEFL scores of 500 or higher or computer-based equivalent scores of 173 or higher.
- Kirkwood English Language Acquisition (ELA) placement scores of Level Six.

Note: All test scores must be earned within the two years prior to applying to the college.

With the exception of Level Five reading and writing bridge classes, students may not register for credit classes until they complete Level Five of the ELA program, unless they have written permission from the program coordinator.

Developmental credit is awarded for ELA classes with a maximum of two credit hours allowed toward an associate degree. Six elective credits are awarded for International Elements of Writing and International Effective Reading and Study Skills, as these are bridge courses.

Students without student visas who want to obtain the basic English language skills and knowledge necessary for employment and self-sufficiency should contact the Kirkwood Lincoln Learning Center at 319-366-0142.

International Students

134 Linn Hall
319-398-5579 or 319-398-5293
gglick@kirkwood.edu

An international student is a person who has entered the United States with an F-1 or J-1 visa. In addition

to demonstrating English language proficiency, international students wanting to enroll in credit classes or programs must be 18 years of age or older and submit:

1. International application forms.
2. Official secondary school and college transcripts.
3. Official evidence of adequate financial resources.
4. Health records.

Further information and assistance is available in the International Studies office, 134 Linn Hall. Gayle Glick, international student advisor, is the primary designated school official for all international students.

Residence Qualifications

319-398-5477

Students enrolling at Kirkwood are classified as residents or nonresidents of Iowa, or as international students, for admission and tuition purposes by the college's Enrollment Services department.

The legal definition requires 90 consecutive days of residency within the state for a U.S. citizen or permanent resident (green card). Students who come to the state of Iowa for the purpose of attending college will remain at nonresident status. The burden of establishing residency rests with students and the information they provide. Enrollment Services has the authority to require written documents, affidavits, verifications or other evidence as deemed necessary to establish proof of residency.

Tuition

The tuition charges established by the Kirkwood Board of Trustees at the time of this printing, March 2009, are as follows:

Iowa Residents

- \$107 per credit hour, per semester.
- Tuition for an average, full-time schedule (15 credit hours) is \$1,605 per semester.

Nonresidents

- \$132 per credit hour, per semester.
- Tuition for an average, full-time schedule (15 credit hours) is \$1,980 per semester.

International Students

- \$214 per credit hour, per semester.
- Tuition for an average, full-time schedule (12 credit hours) is \$2,568 per semester.
- Mandatory international student health insurance for one year is approximately \$1,002.

Included in tuition are costs for laboratory materials, student activities, registration and graduation. There are additional charges for some materials and private music lessons. Online course tuition is charged at resident rate.

Students can exchange courses of equal hours at no additional charge through the second week of the term. After the second week, students will be charged for any classes added, even if they dropped classes or are changing sections. Exceptions can be made with the approval of the department dean.

Tuition is due the day before the term starts. Tuition payments received after this date are considered late and may be assessed an initial late payment fee once the semester begins. Students

with a remaining unpaid account balance may be charged an additional late fee on the 15th of each subsequent month of the semester.

Installment Payments

The FACTS tuition payment plan is available to students who wish to pay their tuition and book expenses in installments throughout the semester. This is not a loan program and there are no interest or finance charges. The cost for the monthly payment plan is \$25 per semester. Tuition fees may be budgeted by automatic bank payment or credit card option.

Refund of Tuition

All refunds are for tuition only and are computed as of the date the class is dropped via EagleNet or the class is withdrawn at Enrollment Services or at a Kirkwood center.

- Through the first week of the course start date – 100 percent.
- Through the second week of the course start date – 50 percent.

Refunds are given through the 14th calendar day of the term. The exceptions to this policy are classes that meet only once, twice or only one weekend. There is no refund for these classes beginning the day of the first class meeting. Refunds will be mailed after the second week of the term.

Full tuition refunds are given when students must withdraw due to:

- medical reasons as recommended and certified by a licensed physician; or
- induction, but not enlistment, into the U.S. armed services.

Refunds are made in these cases only if applied for by the end of the term in which the student withdrew. Outstanding indebtedness to the college will be deducted from refunds.

Medical refunds are made only for complete withdrawal from classes. Enrollment Services will send a form directly to the attending physician indicated by the student. The physician must return the complete form directly to Enrollment Services.

If students withdraw from classes due to extraordinary and personally uncontrollable circumstances, they can petition for waivers of the tuition refund policy. Petition forms are available in Enrollment Services, 2nd floor Kirkwood Hall.

Financial aid recipients who withdraw from all classes are subject to refund guidelines stipulated in the Higher Education Act. Contact the Financial Aid office, 2nd floor Kirkwood Hall, for the appropriate schedule.

Financial Aid

Cedar Rapids Main Campus
2nd floor Kirkwood Hall
319-398-5485
finaid@kirkwood.edu

Iowa City Campus
112 Credit Center
319-887-3658

Financial aid is the difference between the cost of education and the amount the student (and parents) can be expected to contribute.

The Kirkwood Financial Aid office helps qualified students receive financial assistance, enabling them to pursue their academic goals.

To receive the maximum consideration for financial aid, students should apply as soon after January 1 as possible. Application for financial aid must be made each year.

Admissions, Tuition & Financial Aid

Eligibility Requirements

All students seeking financial aid must:

1. be enrolled or accepted in a credit program at least six months in length on at least a half-time basis;
2. intend to complete the program and receive a degree related to the educational objective;
3. be a citizen or permanent resident of the United States;
4. not be in default for any previous education loans or owe a Pell refund;
5. be making satisfactory academic progress according to Kirkwood's published policy;
6. attend the classes they are registered for.

For further information, an application or brochures, contact Financial Aid.

How to Apply for Financial Aid

To apply for grants or loans, follow these steps:

1. Submit the Free Application for Federal Student Aid (FAFSA) as soon as possible after January 1. Find it at www.fafsa.ed.gov.
2. Within four weeks, a Student Aid Report (SAR) is sent. You can expect to receive an award letter based on the application received. Additional documents may be required, and in some cases, the verification process may change the award.
3. Follow all instructions on the award letter.

Types of Grants and Loans

- Pell Grant – Everyone must apply for this grant to be considered for any need-based aid.
- Supplemental Educational Opportunity Grant – For students with the greatest financial need.
- College Work-Study – Hourly wages earned while working at the college. Work hours are arranged with consideration of the student's class schedule.
- Iowa Vocational-Technical Grant – For vocational-technical, full-time students.
- Iowa Grants – Based on financial need with priority given to the neediest applicants.
- Perkins Loan – Low-interest loan with long-term payments beginning nine months after termination of at least half-time enrollment.
- Federal Stafford Direct Student Loan – Low variable interest rate loan (not to exceed 8.25 percent) with long-term payments beginning six months after termination of at least half-time enrollment.
- Parent Loan for Undergraduate Students (PLUS) – Variable interest rate loan (not to exceed 9 percent) with long-term payments beginning on the day the loan is disbursed.

Scholarships

Kirkwood awards more than \$1 million in scholarships to students each year. Applications for most scholarships open October 1 and close March 31. Apply at www.kirkwood.edu/scholarships.

HOPE Scholarship

The HOPE Scholarship is a tax credit available to eligible students during their first two years of postsecondary education. The tax credit covers 100 percent of the first \$1,000 of tuition and 50 percent of the second \$1,000 during the qualified period. The credit is nonrefundable.

To be eligible, a student must be enrolled in a degree, certificate or other program leading to a recognized education credential and be enrolled at least half time.

For more information about the HOPE Scholarship, contact the Financial Aid office or visit the American Association of Community Colleges at www.aacc.nche.edu.

College Work-Study

Cedar Rapids Main Campus
118 Iowa Hall
319-398-4952

Through College Work-Study, students can work at a part-time job and earn money for educational or personal expenses. The following are steps to obtaining a college work-study position:

- Apply for and be awarded federal financial aid.
- Attend an orientation session. During this session, students will complete I-9 and W-4 forms.
- Contact the supervisors of the work-study positions they are interested in to schedule interviews.
- If the students are hired, they must notify the college work-study coordinator so their names can be taken off the active list of students seeking employment. If the students are not hired, they must contact the college work-study coordinator to interview for different positions.

Programs of Study

For the most up-to-date list of programs offered at Kirkwood, go to www.kirkwood.edu/programs.

Career Programs

Get a great start here with certificate, diploma or degree programs designed to provide the training and expertise you need to begin your new career in as little as one year.

Listed below are applied science career programs. Those noted with an asterisk * have transfer agreements with specific four-year colleges and universities.

- Accounting
- Administrative Assistant*
- Agricultural GPS/GIS Technology
- Agriculture Business
- Agriculture Production Management
- Apparel Merchandising*
- Architectural Technology*
- Automotive Collision Repair
- Automotive Technology*
- Banking and Finance
- Biotechnology
- CAD/Mechanical Engineering Technology*
- Career Studies-Health (Radiologic Technology)
- Carpentry
- CNC Machining Technology*
- Computer Information Systems*
- Computer Support Specialist
- Construction Management*
- Culinary Arts
- Dental Assisting
- Dental Hygiene
- Dental Technology
- Diesel Ag Technology
- Diesel Truck Technology
- Electroneurodiagnostic Technology
- Electronics Engineering Technology*
- English Language Acquisition (ELA)
- Entry-level Firefighter
- Floral Careers
- Food Service Assistant

- Geographic Information Systems
- Golf Course and Athletic Turfgrass Management
- Graphic Communication Technology*
- Health Information Technology
- Horse Science Technology
- HVAC Installer
- Industrial Maintenance and HVAC Technology*
- Interior Design
- Iowa Paramedic Specialist
- Landscape Maintenance
- Landscape, Nursery and Garden Center Management
- Local Area Network (LAN) Management*
- Lodging Management
- Management
- Marketing Management
- Masonry Construction
- Medical Assisting
- Medical Coding
- Medical Laboratory Technology
- Medical Transcription
- Nursing - LPN/RN
- Occupational Therapy Assistant
- Office Assistant
- Parks and Natural Resources
- PC Technician
- Pet Grooming/Pet Shop Management
- Physical Therapist Assistant
- Plumbing Technology
- Precision Sheet Metal Fabrication*
- Respiratory Therapist
- Restaurant Management*
- Skilled Trades
- Surgical Technology
- Telecommunication Technology*
- Veterinary Assistant
- Veterinary Technician
- Water Environmental Technology*
- Web Technologies-Application Developer
- Web Technologies-Graphic Designer
- Web Technologies-Marketing Specialist
- Welding*

Liberal Arts Degrees

If you plan to continue your education after Kirkwood, you can take the necessary electives and core courses you need through our Liberal Arts program before your transfer.

The following programs of study are Liberal Arts transfer options. Depending upon your transfer institution and your career interest area, you may earn an Associate of Arts or an Associate of Science degree in Liberal Arts, or you may take only the credits you need to transfer.

Liberal Arts - Associate of Arts (A.A.) degree

Areas of career interest to choose from:

- Agriculture
- Art
- Business
- Computer Science
- Economics
- History
- Music
- Philosophy
- Physical Education
- Political Science
- Psychology
- Religious Studies
- Sociology
- Theatre

Liberal Arts - Associate of Science (A.S.) degree

Areas of career interest to choose from:

- Biology
- Biotechnology
- BSN (Nursing)
- Chemistry
- Chiropractic
- Dentistry
- Engineering
- Environmental Science
- Mathematics
- Medicine
- Pharmacy
- Physical Therapy
- Physics
- Veterinary Medicine

Programs of Study

Career Transfer Programs

The following programs include both technical courses in your career area and general education courses that transfer to four-year colleges and universities.

Business Administration
Communications Media/Public Relations
Computer Information Systems
Criminal Justice - Corrections
Criminal Justice - Law Enforcement
Disabilities Services Careers
Early Childhood Education
Education Careers
Fire Science Management
Human Services
Liberal Arts (see page 11)
Paralegal
Sign Language Interpreter Training

Certificates

Certificate programs are designed for entry-level employment and may provide specialization in specific areas. Courses are usually taken from diploma and degree programs, and may be completed within 12 to 18 semester hours.

Bakery
Biotechnology
Career & Transition Services
Combination Welding
Construction Estimator
Construction Supervision
Disabilities Services Careers
Entry-Level Firefighter
Employment Consultant
Entrepreneurship
Fire Science Management
Geographic Information Systems
Human Resources
Java Programming
Local Area Network (LAN) Management
Network Security
Paraeducator Certification**
Pipe Welding
Quality Assurance Welding
Retail Marketing
Sales
Visual Basic Programming

**Apply to the Disabilities Services Careers or Early Childhood Education program.

Degrees and Core Requirements

Associate of Arts (A.A.)

Associate of Science (A.S.)

A.A. and A.S. degrees are generally considered "transfer level" degrees. Most students earning these degrees transfer to a four-year college or university and continue their studies. Requirements will differ between colleges, so students should work closely with their transfer institutions and Kirkwood advisors to choose classes that meet their needs.

Associate of Applied Science (A.A.S.)

Students who earn A.A.S. degrees typically enter the workforce, however, some Applied Science and Technology programs also have transfer agreements with four-year institutions. Students work with an advisor to determine which degree program best suits their goals.

Associate of Science/ Career Option (A.S./C.O.)

The A.S./C.O. degree programs include both technical courses in career interest areas and general education courses that may transfer. After graduation, students have the option of starting their careers or transferring to a four-year school.

Diploma (D) Certificate (C)

Diploma and certificate programs normally take nine to 12 months to complete and provide entry-level skills to begin a chosen career. Those in the workforce who already have two- or four-year degrees may also seek certificates to advance their careers. Diploma and certificate programs generally do not transfer, but it is best to check with an advisor.

A.A., A.S. or A.S./C.O Degree Requirements

The adjacent table provides degree requirements for students pursuing a two-year transfer program at Kirkwood. Additional requirements of the three programs include:

- Earn a minimum of 62 semester hours of credit.
- Complete 16 semester hours in residence at Kirkwood.
- Maintain a minimum cumulative grade point average of 2.0.
- Students seeking an A.A. degree must complete one approved diversity course.
- Students seeking an A.S./C.O. degree must complete Elementary Algebra successfully or achieve a placement test score at the Intermediate Algebra level or above.

Electives

Electives are transferable courses required for completing all three Arts and Sciences degrees. They go beyond core and general education requirements in providing an opportunity to pursue subjects of special interest.

Electives can be chosen from:

- All courses with "Arts & Sciences Elective Code A" in the course description (transfer courses).
- Up to 16 credit hours of courses with "Arts & Sciences Elective Code B" in the course description (technical courses).
- Only two credit hours of courses with "Arts & Sciences Elective Code D" in the course description (developmental courses).

Students in special majors or Career Option programs may be required to take specific courses to satisfy their program requirements.

	Associate of Arts (A.A.)	Associate of Science (A.S.)	Associate of Science/Career Option (A.S./C.O.)	Associate of Applied Science (A.A.S.)
	credit hours			
Communication – Writing	5	5	5	
Communication – Speech	3	3	3	
Communication				6
Humanities	9			
Humanities and/or History-Cultures		9	6	3
History-Cultures	6			
Social Science	9	6	6	3
Mathematics	3			
Science	6			
Mathematics/Science		20	6	3
Program specific courses			20	47-71
Electives	21	19	16	
Degree Total	62	62	62	62-86

A.A.S. Degree Requirements

To receive an Associate of Applied Science degree, the following requirements must be completed:

- Earn 62-86 semester hours of credit in the courses required for the specific Applied Science program.
- Earn 16 semester hours in residence at Kirkwood in the program for which the degree is sought.
- Maintain a minimum cumulative grade point average of 2.0.
- Complete a minimum of 15 semester credit hours of course work in the following basic learning core:

Communication	2 courses
Humanities	1 course
Social Science	1 course
Mathematics/Science	1 course

All basic core learning requirements can be satisfied from courses with Arts & Sciences Elective Code B in the course description (technical courses) or Arts & Sciences Elective Code A in the course description (transfer courses).

Diploma Requirements

- Earn 30-48 semester hours of credit in the courses required for the specific Applied Science program (for Arts & Sciences diploma programs, check the appropriate department for specific requirements).
- Earn eight semester hours in residence at Kirkwood in the program for which the diploma is sought.
- Maintain a minimum cumulative grade point average of 2.0.

Certificate Requirements

- Earn 12-18 semester hours of credit in courses required for the specific Applied Science program (for Arts & Sciences certificate programs, check the appropriate department for specific requirements).
- Earn six semester hours in residence at Kirkwood in the program for which the certificate is sought.
- Maintain a minimum cumulative grade point average of 2.0.

Arts and Sciences Core Courses

Applicable to A.A., A.S. and A.S./C.O. degree requirements. One diversity course is required for the A.A. degree. Courses with (D) before the course number satisfy the diversity requirement.

COMMUNICATION – SPEECH

SPC-101	Fund of Oral Communication	3
<i>or</i>		
SPC-112	Public Speaking	3

COMMUNICATION – WRITING

ENG-120	College Writing (Composition I-II equivalent) . . .	5
<i>or</i>		
ENG-105	Composition I	3
<i>and</i>		
ENG-106	Composition II	3
<i>or</i>		
ENG-108	Composition II: Technical Writing.	3

HISTORY – CULTURES

Students earning an A.A. degree must complete three credit hours from list 1 and three credit hours from either list 1 or list 2.

Group 1 – Introductory Courses

(D) ANT-105	Cultural Anthropology	3
(D) ASL-171	American Sign Language II	4
(D) ASL-241	American Sign Language III	3
(D) ASL-271	American Sign Language IV	3
(D) CLS-140	Understanding Cultures: The Mideast	3
(D) CLS-151	Understanding Cultures: Latin America	3
(D) CLS-159	Understanding Cultures: Indigenous Central America	3
(D) CLS-162	Understanding Cultures: Pacific Societies	3
(D) CLS-165	Understanding Cultures: Modern Japan	3
(D) CLS-167	Understanding Cultures: Modern China	3
(D) CLS-171	Understanding Cultures: Sub-Saharan Africa	3
(D) FLF-142	Elementary French II	4
(D) FLF-231	Intermediate French I	4
(D) FLF-232	Intermediate French II	4
(D) FLG-142	Elementary German II	4
(D) FLG-231	Intermediate German I	4
(D) FLG-232	Intermediate German II	4
(D) FLS-142	Elementary Spanish II	4
(D) FLS-231	Intermediate Spanish I	4
(D) FLS-232	Intermediate Spanish II	4
HIS-121	Ancient Mediterranean World	3
HIS-122	Europe-Age of Monarchy	3
HIS-123	Europe-Age of Revolution	3
HIS-124	Europe-Age of Nationalism	3
HIS-151	U.S. History to 1877	3
HIS-152	U.S. History Since 1877	3
HIS-291	History of Science	3
(D)REL-101	Survey of World Religions	3
(D)REL-120	Judaism, Christianity & Islam	3
(D)REL-130	Intro to Religions of the East	3

Group 2 – Other Courses

(D) HIS-221	Holocaust/Genocide: Memory & Literature	3
(D) HIS-254	American Indian History	3
(D) REL-125	Intro to Islam	3
(D) REL-140	Religion in the United States	3
(D) REL-160	Religions of China	3

HUMANITIES

Students seeking an A.A. degree must select one course from 1, one course from 2 and one course from 1, 2 or 3.

Group 1 – Arts and Ideas

ART-101	Art Appreciation	3
ART-203	Art History I	3
ART-204	Art History II	3
DRA-101	Intro to Theatre	3
DRA-116	Film Analysis	3
DRA-125	Intro to Play Analysis	3
HUM-123	U.S. Film History	3
HUM-124	World Film History	3
MUS-100	Music Appreciation	3
MUS-209	Topics in Western Music History	3
PHI-101	Intro to Philosophy	3
PHI-105	Intro to Ethics	3
PHI-111	Basic Reasoning	3
(D) PHI-125	Intro to Non-Western Philosophy: Native American Philosophies	3
(D) PHI-126	Intro to Non-Western Philosophy: Chinese Philosophies	3
PHI-132	Philosophy of Education	3
PHI-150	Social and Political Philosophy	3

Group 2 – Literature

(Prereq: ENG-105 or ENG-120)

LIT-203	Forms of Literature: Story Cycle	3
LIT-204	Forms of Literature: Nonfiction	3
LIT-205	Forms of Literature: Drama	3
LIT-206	Forms of Literature: Fiction	3
LIT-207	Forms of Literature: Poetry	3
LIT-208	Forms of Literature: New Media	3
(D) LIT-222	Literature & Culture: American Dreams	3
(D) LIT-224	Literature & Culture: Women and Work	3
LIT-225	Literature Themes: Beyond Bartleby	3
LIT-226	Literature Themes: Search for Identity	3
(D) LIT-227	Literature & Culture: World Poetry	3

Group 3 – Interdisciplinary Humanities

(D) CLS-180	American Pluralism	3
CLS-190	Culture and Technology	3
HUM-105	Working in America	3
HUM-116	Encounters in Humanities	3

MATHEMATICS

Students earning an associate's degree must complete one college-level math course.

MAT-115	Mathematics and Society	3
MAT-120	College Algebra	3
MAT-136	Trigonometry & Analytic Geometry	5
MAT-138	College Algebra with Limits	4
MAT-140	Finite Math	3
MAT-155	Statistical Ideas	3
MAT-157	Statistics	4
MAT-162	Business Statistics	4
MAT-165	Business Calculus	3
MAT-175	Calculus for Biological Sciences	4
MAT-210	Calculus I	4
MAT-216	Calculus II	4
MAT-219	Calculus III	4
MAT-227	Differential Equation with Laplace	4

SCIENCE

A.A. and A.S./C.O. degree seeking students select from Group A below. See an adviser for requirements specific to your degree.

BIO-104	Introductory Biology w/ Lab	3
BIO-112	General Biology I	4
BIO-113	General Biology II	4
BIO-124	Botany for Non-Majors	4
BIO-154	Human Biology	3
BIO-189	Microbes and Society	3
BIO-190	Introductory Biotechnology	3
BIO-195	Human Evolution	3
CHM-110	Intro to Chemistry	3
CHM-111	Intro to Chemistry Lab	1
CHM-132	Intro Organic & Biochemistry	4
CHM-165	General Chemistry I	4
CHM-175	General Chemistry II	4
ENV-115	Environmental Science	3
PHS-151	Intro to Astronomy	3
PHS-170	Physical Geology	3
PHS-171	Physical Geology Lab	1
PHS-175	Environmental Geology	3
PHS-176	Environmental Geology Lab	1
PHS-180	Evolution of the Earth	3
PHS-181	Evolution of the Earth Lab	1
PHY-120	Introductory Physics	3
PHY-162	College Physics I	4
PHY-172	College Physics II	4
PHY-212	Classical Physics I	5
PHY-222	Classical Physics II	5
SCI-120	Forensic Science	3
SCI-122	Forensic Science Lab	1

A.S. degree seeking students select from Group A listed above

and from Group B listed below.

BIO-168	Human Anatomy & Physiology I w/ Lab	4
BIO-173	Human Anatomy & Physiology II w/ Lab	4
BIO-186	Microbiology	4
CHM-262	Organic Chemistry I	4.5
CHM-272	Organic Chemistry II	4.5
CHM-280	Quantitative Analysis	4

SOCIAL SCIENCE

Students seeking an A.A. degree need 3 courses, students seeking an A.S. degree need 2 courses.

CRJ-100	Intro to Criminal Justice	3
CRJ-200	Criminology	3
CRJ-201	Juvenile Delinquency	3
(D) DSV-200	Exceptional Persons	3
ECN-120	Principles of Macroeconomics	3
ECN-130	Principles of Microeconomics	3
(D) ECN-210	Asian Economic Systems	3
EDU-240	Educational Psychology	3
GEO-115	Human Geography	3
(D) GEO-121	World Regional Geography	3
HSV-110	Human Services Policy & Programs	3
MMS-101	Mass Media	3
POL-111	American National Government	3
POL-121	International Relations	3
(D) POL-125	Comparative Government & Politics	3
POL-150	Intro to U.S. Foreign Policy	3
PRL-101	Paralegal Studies Orientation	3
PSY-111	Intro to Psychology	3
PSY-121	Developmental Psychology	3
PSY-241	Abnormal Psychology	3
PSY-251	Social Psychology	3
SOC-110	Intro to Sociology	3
SOC-115	Social Problems	3
SOC-120	Marriage and Family	3
SOC-132	Sociology of Loss, Grieving & Growth	3
(D) SOC-265	Intro to Lesbian/Gay/ Bi/ Trans/ Studies	3
SOC-270	Social & Behavioral Research Methods	3
SOC-284	Sociology of the Environment	3
(D) SOC-200	Minority Group Relations	3

DIVERSITY COURSES NOT ALSO APPROVED FOR CORE

(Required for a student seeking an A.A. degree)

CLS-125	Language and Society	3
CRJ-202	Cultural Awareness-CJ Practitioners	3
ITP-130	Social Aspects of Deaf Culture	3
LIT-158	Literature of African Peoples	3

Programs of Study by Career Interest

Agriculture, Food & Natural Resources				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Agricultural GPS/GIS Technology	A.A.S.	Ag Sciences	319-398-5609	25
Agriculture Business	A.A.S., Diploma	Ag Sciences	319-398-5609	26
Agriculture Production Management	A.A.S.	Ag Sciences	319-398-5609	27
Diesel Ag Technology	A.A.S.	Ag Sciences	319-398-5591	45
Diesel Truck Technology	A.A.S.	Ag Sciences	319-398-5591	46
Floral Careers	Diploma	Ag Sciences	319-398-5441	51
Golf Course and Athletic Turfgrass Management	A.A.S.	Ag Sciences	319-398-5441	54
Horse Science Technology	A.A.S., Diploma	Ag Sciences	319-398-5609	57
Landscape Maintenance	A.A.S.	Ag Sciences	319-398-5441	62
Landscape, Nursery & Garden Center Management	A.A.S.	Ag Sciences	319-398-5441	63
Liberal Arts - Agriculture	A.A.	Ag Sciences	319-398-5609	105
Liberal Arts - Veterinary Medicine	A.S.	Math/Science	319-398-5516	105
Parks & Natural Resources	A.A.S.	Ag Sciences	319-398-5441	76
Pet Grooming and Pet Shop Management	Diploma	Ag Sciences	319-398-5609	78
Veterinary Assistant	Diploma	Ag Sciences	319-398-5609	87
Veterinary Technician	A.A.S.	Ag Sciences	319-398-5609	88

Architecture & Constuction				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Architectural Technology	A.A.S.	Industrial Technologies	319-398-4983	29
Carpentry	Diploma	Industrial Technologies	319-398-4983	36
Construction Management	A.A.S.	Industrial Technologies	319-398-4983	40
HVAC Installer	Diploma	Industrial Technologies	319-398-4983	58
Liberal Arts - Engineering	A.S.	Math/Science	319-398-5516	105
Masonry Construction	Diploma	Industrial Technologies	319-398-4983	68
Plumbing Technology	Diploma	Industrial Technologies	319-398-4983	80

Arts, A/V Technology & Communication				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Communications Media/Public Relations	A.A., A.S./C.O.	Social Sciences	319-398-1241	96
Graphic Communication Technology	A.A.S.	Business & Information Technology	319-398-5416	55
Liberal Arts - Art	A.A.	Arts & Humanities	319-398-4913	105
Liberal Arts - Music	A.A.	Arts & Humanities	319-398-4913	105
Liberal Arts - Theatre	A.A.	Arts & Humanities	319-398-4913	105

Programs of Study by Career Interest

Business, Management, Administration & Finance				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Accounting	A.A.S.	Business & Information Technology	319-398-5416	23
Administrative Assistant	A.A.S.	Business & Information Technology	319-398-5416	24
Banking & Finance	A.A.S.	Business & Information Technology	319-398-5416	32
Business Administration	A.S./C.O.	Business & Information Technology	319-398-5416	95
Entrepreneurship	Certificate	Business & Information Technology	319-398-5416	66
Human Resources	Certificate	Business & Information Technology	319-398-5416	66
Liberal Arts - Business	A.A.	Business & Information Technology	319-398-5416	105
Management	A.A.S.	Business & Information Technology	319-398-5416	66
Office Assistant	Diploma	Business & Information Technology	319-398-5416	75

Education & Training				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Career and Transition Services	Certificate	Social Sciences	319-398-4822	100
Disabilities Services Careers	A.A., A.S./C.O. Diploma, Certificate	Social Sciences	319-398-4822	100
Early Childhood Education	A.A., A.S./C.O., Diploma, Certificate	Social Sciences	319-398-4822	101
Education Careers	A.A.	Social Sciences	319-398-4822	102
Paraeducator Certification	Certificate	Social Sciences	319-398-4822	100
Sign Language Interpreter Training	A.A., A.S./C.O.	Social Sciences	319-398-1241	107
Office Assistant	Diploma	Business & Information Technology	319-398-5416	75

Government & Public Administration				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Criminal Justice - Corrections	A.A., A.S./C.O.	Social Sciences	319-398-1241	98
Criminal Justice - Law Enforcement	A.A., A.S./C.O.	Social Sciences	319-398-1241	99
Disabilities Services Careers	A.A., A.S./C.O. Diploma, Certificate	Social Sciences	319-398-4822	100
Human Services (Social Work)	A.A., A.S./C.O.	Social Sciences	319-398-4822	104
Liberal Arts - Economics	A.A.	Social Sciences	319-398-4911	105
Liberal Arts - History	A.A.	Social Sciences	319-398-4911	105
Liberal Arts - Political Science	A.A., A.S./C.O.	Social Sciences	319-398-4911	105
Liberal Arts - Sociology	A.A.	Social Sciences	319-398-4911	105
Paraeducator Certification	Certificate	Social Sciences	319-398-4822	100
Paralegal	A.A., A.S./C.O.	Social Sciences	319-398-1241	106
Sign Language Interpreter Training	A.A., A.S./C.O.	Social Sciences	319-398-1241	107
Water Environmental Technology	A.A.S., Diploma	Industrial Technologies	319-398-4983	89

Programs of Study by Career Interest

Health Science				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Dental Assisting	A.A.S., Diploma	Health Science	319-398-5566	42
Dental Hygiene	A.A.S.	Health Science	319-398-5566	43
Dental Technology	A.A.S.	Health Science	319-398-5566	44
Electoneurodiagnostic Technology	A.A.S.	Health Science	319-398-5566	47
Health Information Technology	A.A.S.	Health Science	319-398-5566	56
Iowa Paramedic Specialist	A.A.S.	Health Science	319-398-5566	61
Liberal Arts - Physical Education	A.S.	Math/Science	319-398-5516	105
Liberal Arts - BSN (Nursing)	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Chiropractic Medicine	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Dentistry	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Medicine	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Pharmacy	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Physical Therapy	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Psychology	A.A., A.S.	Social Sciences	319-398-4911	105
Medical Assisting	A.A.S., Diploma	Health Science	319-398-5566	69
Medical Coding	Diploma	Health Science	319-398-5566	70
Medical Laboratory Technology	A.A.S. from Hawkeye	Health Science	319-398-5566	71
Medical Transcription	Diploma	Health Science	319-398-5566	72
Nursing - LPN/RN	A.A.S.	Health Science	319-398-5566	73
Occupational Therapy Assistant	A.A.S.	Health Science	319-398-5566	74
Physical Therapist Assistant	A.A.S.	Health Science	319-398-5566	79
Radiologic Technology / Career Studies - Health	A.A.S.	Health Science	319-398-5566	35
Respiratory Therapist	A.A.S.	Health Science	319-398-5566	82
Surgical Technology	A.A.S., Diploma	Health Science	319-398-5566	85

Hospitality & Tourism				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Bakery Certificate	Certificate	Business & Information Technology	319-398-5468	41
Culinary Arts	A.A.S.	Business & Information Technology	319-398-5468	41
Food Service Assistant	Diploma	Business & Information Technology	319-398-5468	52
Lodging Management	A.A.S.	Business & Information Technology	319-398-5468	65
Restaurant Management	A.A.S.	Business & Information Technology	319-398-5468	83

Programs of Study by Career Interest

Human Services				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Criminal Justice - Corrections	A.A., A.S./C.O.	Social Sciences	319-398-1241	98
Criminal Justice - Law Enforcement	A.A., A.S./C.O.	Social Sciences	319-398-1241	99
Disabilities Services Careers	A.A., A.S./C.O. Diploma, Certificate	Social Sciences	319-398-4822	100
Human Services (Social Work)	A.A., A.S./C.O.	Social Sciences	319-398-4822	104
Liberal Arts - Economics	A.A.	Social Sciences	319-398-4911	105
Liberal Arts - Political Science	A.A.	Social Sciences	319-398-4911	105
Liberal Arts - Psychology	A.A., A.S./C.O.	Social Sciences	319-398-4911	105
Liberal Arts - Sociology	A.A., A.S./C.O.	Social Sciences	319-398-4911	105
Paralegal	A.A., A.S./C.O.	Social Sciences	319-398-1241	106
Sign Language Interpreter Training	A.A., A.S./C.O.	Social Sciences	319-398-1241	107

Information Technology				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Computer Information Systems	A.A.S., A.S./C.O.	Business & Information Technology	319-398-5416	38
Computer Support Specialist	A.A.S.	Business & Information Technology	319-398-5416	39
Geographic Information Systems	A.A.S.	Business & Information Technology	319-398-5416	53
Graphic Communication Technology	A.A.S.	Business & Information Technology	319-398-5416	55
Java Programming	Certificate	Business & Information Technology	319-398-5416	38
Liberal Arts - Computer Science	A.S.	Math/Science	319-398-5516	105
Local Area Network (LAN) Management	A.A.S.	Business & Information Technology	319-398-5416	64
Network Security	Certificate	Business & Information Technology	319-398-5416	64
PC Technician	Diploma	Business & Information Technology	319-398-5416	77
Visual Basic Programming	Certificate	Business & Information Technology	319-398-5416	38
Web Technologies - Application Developer	A.A.S.	Business & Information Technology	319-398-5416	90
Web Technologies - Graphic Designer	A.A.S.	Business & Information Technology	319-398-5416	91
Web Technologies - Marketing Specialist	A.A.S.	Business & Information Technology	319-398-5416	92

Programs of Study by Career Interest

Law, Public Safety, Corrections & Security				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Criminal Justice - Corrections	A.A., A.S./C.O.	Social Sciences	319-398-1241	98
Criminal Justice - Law Enforcement	A.A., A.S./C.O.	Social Sciences	319-398-1241	99
Entry-Level Firefighter	Diploma	Industrial Technologies	319-398-4983	50
Fire Science Management	A.S./C.O., Certificate	Industrial Technologies	319-398-4983	103
Liberal Arts - Economics	A.A.	Social Sciences	319-398-4911	105
Liberal Arts - History	A.A.	Social Sciences	319-398-4911	105
Liberal Arts - Psychology	A.A.	Social Sciences	319-398-4911	105
Liberal Arts - Sociology	A.A.	Social Sciences	319-398-4911	105
Paralegal	A.A., A.S./C.O.	Social Sciences	319-398-1241	106

Manufacturing & Advanced Manufacturing				
Program of Study	Degree Awarded	Academic Department	Phone	Page
CAD/Mechanical Engineering Technology	A.A.S.	Industrial Technologies	319-398-4983	34
CNC Machining Technology	A.A.S., Diploma	Industrial Technologies	319-398-4983	37
Electronics Engineering Technology	A.A.S.	Industrial Technologies	319-398-4983	48
Industrial Maintenance & HVAC Technology	A.A.S.	Industrial Technologies	319-398-4983	59
Liberal Arts - Engineering	A.S.	Math/Science	319-398-5516	105
Precision Sheet Metal Fabrication	A.A.S., Diploma	Industrial Technologies	319-398-4983	81
Welding - Combination, Pipe, Quality Assurance	A.A.S., Certificate	Industrial Technologies	319-398-4983	93

Marketing, Sales & Service				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Apparel Merchandising	A.A.S., Diploma	Business & Information Technology	319-398-5416	28
Graphic Communication Technology	A.A.S.	Business & Information Technology	319-398-5416	55
Interior Design	A.A.S.	Business & Information Technology	319-398-5416	60
Marketing Management	A.A.S.	Business & Information Technology	319-398-5416	67
Retail Marketing	Diploma, Certificate	Business & Information Technology	319-398-5416	67
Sales	Certificate	Business & Information Technology	319-398-5416	67

Programs of Study by Career Interest

Science, Technology, Engineering, Mathematics				
Program of Study	Degree Awarded	Academic Department	Phone	Page
Architectural Technology	A.A.S.	Industrial Technologies	319-398-4983	29
Automotive Collision Repair	Diploma	Industrial Technologies	319-398-4983	30
Automotive Technology	A.A.S.	Industrial Technologies	319-398-4983	31
Biotechnology Transfer	A.S., A.A.S.	Math/Science	319-398-5516	33
CAD/Mechanical Engineering Technology	A.A.S.	Industrial Technologies	319-398-4983	34
Electronics Engineering Technology	A.A.S.	Industrial Technologies	319-398-4983	48
Geographic Information Systems (GIS)	A.A.S.	Business & Information Technology	319-398-5416	53
Liberal Arts - Biology	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Chemistry	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Environmental Science	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Mathematics	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Physical Education	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Physics	A.S.	Math/Science	319-398-5516	105
Liberal Arts - BSN (Nursing)	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Computer Science	A.S.	Math/Science	319-398-5516	105
Liberal Arts - Engineering	A.S.	Math/Science	319-398-5516	105

Career Programs

Accounting	Industrial Maintenance and HVAC Technology
Administrative Assistant	Interior Design
Agricultural GPS/GIS Technology	Iowa Paramedic Specialist
Agriculture Business	Landscape Maintenance
Agriculture Production Management	Landscape, Nursery and Garden Center Management
Apparel Merchandising	Local Area Network (LAN) Management
Architectural Technology	Lodging Management
Automotive Collision Repair	Management
Automotive Technology	Marketing Management
Banking and Finance	Masonry Construction
Biotechnology	Medical Assisting
CAD/Mechanical Engineering Technology	Medical Coding
Career Studies-Health (Radiologic Technology)	Medical Laboratory Technology
Carpentry	Medical Transcription
CNC Machining Technology	Nursing-LPN/RN
Computer Information Systems	Occupational Therapy Assistant
Computer Support Specialist	Office Assistant
Construction Management	Parks and Natural Resources
Culinary Arts	PC Technician
Dental Assisting	Pet Grooming/Pet Shop Management
Dental Hygiene	Physical Therapist Assistant
Dental Technology	Plumbing Technology
Diesel Ag Technology	Precision Sheet Metal Fabrication
Diesel Truck Technology	Respiratory Therapist
Electroneurodiagnostic Technology	Restaurant Management
Electronics Engineering Technology	Skilled Trades
English Language Acquisition (ELA)	Surgical Technology
Entry-level Firefighter	Telecommunication Technology
Floral Careers	Veterinary Assistant
Food Service Assistant	Veterinary Technician
Geographic Information Systems	Water Environmental Technology
Golf Course and Athletic Turfgrass Management	Web Technologies-Application Developer
Graphic Communication Technology	Web Technologies-Graphic Designer
Health Information Technology	Web Technologies-Marketing Specialist
Horse Science Technology	Welding
HVAC Installer	

The Accounting program provides students with the background they need to enter general accounting, cost accounting, finance, credit or other specialized areas of financial accounting and financial reporting. A degree in accounting provides students with a variety of options and opportunities. Today's accountant can choose from a variety of career paths and a wide range and size of employers.

Career opportunities: accounting clerks, cost accounting, general accounting, governmental accounting, internal accounting, office managers, payroll clerks.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall, Spring or Summer

Award
 Associate of Applied Science degree
 2 years (4 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
ACC-152	Financial Accounting	4	ACC-222	Cost Accounting	4
CSC-110	Intro to Computers	3	ACC-231	Intermediate Accounting I	4
ENG-105	Composition I	3	ACC-362	Accounting Spreadsheets	4
MAT-140	Finite Math	3	SPC-101	Fundamentals of Oral Communication	3
-----	Restricted elective	3			15
		16	Fourth Semester		
Second Semester			ACC-232	Intermediate Accounting II	4
ACC-156	Managerial Accounting	4	ACC-491	Accounting Capstone	3
ACC-160	Payroll Accounting	2	ECN-130	Principles of Microeconomics	3
ACC-265	Income Tax Accounting	4	-----	Restricted elective	3
ACC-311	Computer Accounting	3	-----	Humanities	3
ENG-108	Composition II: Technical Writing	3			16
		16	Total program credit hours		
					63

Administrative Assistant

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

This program prepares graduates to become members of the executive team in today's fast-paced business environment. It includes in-depth instruction in computer applications (word processing, desktop publishing, multimedia), essential workplace "soft skills" (teamwork, project development, problem-solving) and liberal arts studies.

Career opportunities: executive assistant, human resources assistant, administrative assistant, marketing assistant, office manager, sales assistant.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
ADM-133	Business Math and Calculators	3	ADM-164	Administrative Office Applications	3
BCA-136	Advanced Word Processing	3	ADM-165	Information Processing	3
BCA-212	Intro to Computer Business Applications	3	ADM-142	Desktop Publishing	3
BUS-190	Professionalism: BPA	1	BUS-185	Business Law I	3
COM-710	Basic Communications	3	-----	Humanities elective	3
MGT-145	Human Relations in Management	3			15
		16	Fourth Semester		
Second Semester			ADM-154	Business Communication	3
ACC-111	Intro to Accounting	3	BCA-179	PowerPoint Multimedia	3
ADM-163	Office Concepts & Procedures	3	BUS-932	Internship	3
ADM-176	Electronic Records System	3	MGT-158	Office Supervision and Management	3
BCA-138	Advanced Word Processing Applications	3	-----	Business/Computer elective	3
BUS-190	Professionalism: BPA	1			15
BCA-213	Intermediate Computer Business Applications	3	Total program credit hours		
		16			62

Agricultural GPS/GIS Technology

Agricultural GPS/GIS Technology students prepare to work in the emerging geospatial technology industry. Kirkwood's program is one of only a handful of precision agriculture programs in the nation and allows specialization in agriculture, horticulture, natural resources or geospatial technology.

The program includes courses in computers, GPS (Global Positioning Systems), ArcView, data collection, agronomy and agriculture economics. Students also complete an internship during the summer. A strong background in math and science is recommended for this program.

Career opportunities: GPS technicians, custom applicators, GIS specialists, GIS coordinators in agriculture, natural resources and other industries that apply geospatial technologies.

Ag Sciences
 Washington Hall
 319-398-5609
www.kirkwood.edu/agrisciences

Entry time
 Fall or Spring

Award
 Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			Fall Term II		
AGA-154	Fundamentals of Soil Science	3	AGB-101	Agricultural Economics	3
AGC-103	Ag Computer	3	AGP-420	Geospatial Data Collection	3
AGC-160	Intro to Technical Chemistry	4	MAT-115	Mathematics and Society	3
AGP-333	Precision Farming Systems	3	SPC-101	Fundamentals of Oral Communication	3
ENG-105	Composition I <i>or</i>	3	-----	Specialty requirement	3
ENG-101	Elements of Writing				15
		16			
Spring Term I			Spring Term II		
AGA-114	Principles of Agronomy	3	AGP-425	Agricultural Spatial Analysis	4
AGP-405	Intro to ArcView	3	PHI-105	Intro to Ethics	3
BIO-104	Introductory Biology w/lab	3	-----	Specialty requirements	9
MAT-102	Intermediate Algebra	4			16
SOC-110	Intro to Sociology	3			
-----	Specialty requirement	3			
		19			
Summer Term			Total program credit hours		
AGC-932	Internship	4			70
		4			

Agriculture Business

Ag Sciences

Washington Hall
319-398-5609
www.kirkwood.edu/agrisciences

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Diploma (2 semesters, 1 summer)

Agriculture Business students prepare for careers in the agricultural sales and service industry. Students study sales, economics, farm management, marketing, agronomy and animal science, and are required to complete an internship.

Career opportunities: territory salespeople, counter sales, production assistants, department managers, advertising communication assistants or managers.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			Summer Term		
AGA-154	Fundamentals of Soil Science	3	AGA-381	Crop Scouting	3
AGB-133	Intro to Ag Business	3	AGB-336	Agricultural Selling	3
AGC-313	Leadership in Agriculture	1	AGC-932	Internship	2
AGS-113	Survey of Animal Industry	3	MGT-145	Human Relations in Management	3
COM-723	Workplace Communications <i>and</i>	3			11
COM-744	Oral Communications/Workplace <i>or</i>	3	Fall Term II		
ENG-105	Composition I <i>and</i>		AGB-466	Agricultural Finance	3
SPC-101	Fundamentals of Oral Communication		AGB-470	Farm Records, Accounts, Analysis	3
-----	Computer Competency	3	AGC-160	Intro to Technical Chemistry	4
		19	AGS-319	Animal Nutrition	3
			-----	Humanities requirement	3
					16
Spring Term I			Spring Term II		
AGA-114	Principles of Agronomy	3	AGB-101	Agricultural Economics	3
AGA-165	Agricultural Fertilizers & Chemicals	3	AGB-138	Principles of Agribusiness	3
AGB-322	Buildings and Equipment	2	AGB-235	Intro to Agriculture Markets	3
AGB-330	Farm Business Management	3	AGP-333	Precision Farming Systems	3
AGC-130	Mathematics I - Agriculture	3			12
AGC-932	Internship (coordinator approval)	3			
		17			
			Total program credit hours		75

Agriculture Production Management

Agriculture Production Management students prepare for employment in the food production chain. Students can pursue specialized studies (options) in general ag production, or beef, swine or crop production. Students who want to take courses from more than one of these areas can customize their studies with the assistance of a faculty member. This program includes an internship.

Ag Sciences
 Washington Hall
 319-398-5609
www.kirkwood.edu/agrisciences

Entry time
 Fall or Spring

Career opportunities: farm management, swine production facilities, feedlots, cattle ranches, herdsman positions, crop production and agronomy positions.

Award
 Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			Summer Term		
AGC-313	Leadership in Agriculture	1	AGC-932	Internship	5
AGS-319	Animal Nutrition	3			5
COM-723	Workplace Communications <i>and</i>	3	Fall Term II		
COM-744	Oral Communcation/Workplace <i>or</i>	3	AGB-330	Farm Business Management	3
ENG-105	Composition I <i>and</i>		AGB-470	Farm Records, Accounts, Analysis	3
SPC-101	Fundamentals of Oral Communication		MGT-145	Human Relations in Management	3
-----	Animal Science <i>or</i> Agronomy requirement	5	-----	Animal Science <i>or</i> Agronomy requirement	5
-----	Computer Competency	3	-----	Humanities requirement	3
		18			17
Spring Term II			Spring Term II		
AGC-130	Mathematics I - Agriculture	3	AGB-235	Intro to Agriculture Markets	3
AGC-160	Intro to Technical Chemistry	4	AGB-466	Ag Finance	3
AGP-333	Precision Farming Systems	3	-----	Animal Science <i>or</i> Agronomy requirement	3
AGS-214	Domestic Animal Physiology	3	-----	Ag elective	3
-----	Animal Science <i>or</i> Agronomy requirement	3			12
		16	Total program credit hours		
					68

Apparel Merchandising

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

Diploma option available.
 See advisor for information.

The Apparel Merchandising one-year diploma program provides fashion knowledge, sales skills and human relations experience to enter this area of retailing. Students participate in a supervised internship and gain real world experience. The two-year Associate of Applied Science degree transfers to Iowa State University. An annual fashion show, field trips and other special opportunities help students learn outside the classroom.

The diploma program can be combined with additional course work in general education, marketing and management to earn an Associate of Applied Science degree in Marketing Management.

Career opportunities: fashion sales/buyer, accessory coordinator, specialty and department store management, visual merchandiser, area supervisor.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
APP-120	Apparel Visual Merchandising	3	ACC-152	Financial Accounting	4
APP-130	Principles of Fashion Merchandising	3	APP-210	Apparel Textiles	3
APP-140	Fashion History	3	MKT-160	Principles of Retailing	3
ENG-105	Composition I	3	PSY-111	Intro to Psychology	3
MKT-140	Principles of Selling	3	-----	Humanities or History/Cultures Core	3
		15			16
Second Semester			Fourth Semester		
APP-170	Fashion Trends and Consumer Analysis	3	ECN-130	Principles of Microeconomics	3
APP-220	Fashion Show Procedures	3	MAT-157	Statistics	4
ENG-106	Composition II	3	MKT-110	Principles of Marketing	3
MAT-140	Finite Math	3	-----	Science Core	3
SPC-101	Fundamentals of Oral Communication	3	-----	Humanities or History/Cultures Core	3
		15			16
			Total program credit hours		62

Architectural Technology

Architectural Technology prepares graduates to become architectural CAD technicians. The program includes manual drafting as well as in-depth instruction in CAD, computer applications (word processing, desktop publishing, multimedia), essential group skills (teamwork, project development and problem-solving) and liberal arts studies.

Practical experience is enhanced through a paid architectural/construction-related internship or an unpaid architectural mentoring program.

Career opportunities: CAD technicians for architectural, civil, mechanical, electrical and/or structural services; estimators; designers; drafters for building material suppliers; remodelers; kitchen designers; residential designers.

Industrial Technologies

Jones Hall
319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Year - First Semester (Fall)			Summer Term		
ARC-112	Architectural Drafting I	3	ARC-100	Architectural Profession	1
CON-116	Architectural Plans & Specs	2	ARC-135	American Architecture	1
CON-134	Surveying and Site Layout	2	CAD-106	CAD II	3
CON-311	Building Construction Systems I	3	CAD-202	CAD Residential	3
IND-155	Microcomputer Applications	2	CON-108	Construction Safety	1
MAT-716	Industrial Math II	3			9
		15	Second Year - First Semester (Fall)		
First Year - Second Semester (Spring)			ART-133	Drawing or Humanities elective	3
ARC-122	Architectural Drafting II	3	CAD-204	CAD Commercial	6
ARC-195	Architectural Illustration & Model Bldg	3	-----	Communication elective	3
CAD-105	CAD I	2	-----	Social Science elective	3
CAD-200	CAD Softplan	3			15
CON-272	Construction Skills Lab	2	Second Year - Second Semester (Spring)		
CON-312	Building Construction Systems II	2	ARC-932	Internship	2
CON-321	Residential Estimating	2	CAD-206	CAD Project	6
		17	CON-331	Construction Materials Science	2
			-----	Communication elective	3
					13
			Total program credit hours		69

Automotive Collision Repair

Industrial Technologies

Jones Hall
 319-398-4983
 www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Diploma
 1 years (2 semesters, 1 summer)

Certification

I-CAR Welding

Automotive Collision Repair teaches students the theory and practices of metal forming and shaping; body fillers, frame straightening and repair, uni-body straightening and repairs; refinishing procedures; paints and paint chemistry; glass installation; upholstery removal and replacement; and equipment use and care. Cost estimating and customer relations skills are also emphasized. A majority of class time is devoted to practical laboratory experience in the college's Auto Collision Repair Center. A tool set is required for this program.

Career opportunities: body/fender shop, auto/truck dealership, auto garage or repair service, auto or parts manufacturer, tool sales company, equipment/materials sales, insurance claims adjuster.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Second Semester (Spring)		
CRR-338	Intro to Metalworking	3	CRR-342	Metalworking II	4
CRR-803	Intro to Refinishing	3	CRR-344	Metalworking III	4
CRR-820	Metalworking and Refinishing Practices	3	CRR-833	Refinishing II	3
CRR-830	Metalworking and Refinishing I	3	CRR-837	Refinishing III	3
MAT-715	Industrial Math I	3	MGT-145	Human Relations in Management	3
WEL-333	Auto Collision Welding	2			17
		17	Summer Term		
			CRR-545	Body Straightening & Painting	7
					7
			Total program credit hours		
					41

Automotive Technology

The Automotive Technology program provides entry-level skills and knowledge for students who want to work in the automotive technology field. The curriculum emphasizes automotive electronics and features courses in body electrical, engine electrical and computerized fuel delivery systems. Kirkwood is designated as one of only 55 T-TEN (Toyota Technical Education Network) schools in the nation and the only such school in Iowa. Our program is Master™-certified by the National Automotive Technicians Education Foundation (NATEF), and our instructors are certified Master Technicians by the National Institute of Automotive Services Excellence.

Career opportunities: auto dealerships, franchised auto centers, independent repair facilities, specialty service shops, auto sales and support, fleet maintenance.

Industrial Technologies

Jones Hall
319-398-4983
www.kirkwood.edu/industrialtech

Entry time
Fall

Award
Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Diploma option available.
See advisor for more information.

Certifications
A1-A8, L1, ASE certifications

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Summer Term		
AUT-104	Intro to Automotive Technology	3	AUT-655	Auto Advanced Electricity	5
AUT-503	Automotive Brake Systems	3	AUT-932	Internship	2
AUT-603	Basic Automotive Electricity	3	WEL-331	Welding Fundamentals	2
AUT-888	Tech Lab I	4			9
MAT-715	Industrial Math I	3			
		16	Third Semester (Fall)		
Second Semester (Spring)			AUT-205	Auto Automatic Transmissions/Transaxles	5
AUT-165	Automotive Engine Repair	5	AUT-703	Automotive Heating and Air Conditioning	3
AUT-303	Auto Manual Drive Train & Axles	3	IND-155	Microcomputer Applications	2
AUT-403	Auto Suspension and Steering	3	MGT-145	Human Relations in Management	3
AUT-889	Tech Lab II	4	-----	Humanities elective	3
-----	Communication elective	3			16
		18	Fourth Semester (Spring)		
			AUT-620	Hybrid Electronic Vehicle Fundamentals	2
			AUT-816	Fuel and Ignition Systems	4
			AUT-819	Computerized Engine Controls	8
			-----	Communication elective	3
					17
Total program credit hours					76

Banking and Finance

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

The Banking and Finance program is designed for students seeking careers with financial institutions and for those already at financial institutions wishing to attain advanced positions. This program provides an internship opportunity to give students real-world experience.

Career opportunities: beginning personal banker, management trainee, customer service representative, vault teller, trust administrative assistant, loan officer.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CSC-110	Intro to Computers	3	ACC-156	Managerial Accounting	4
ENG-105	Composition I	3	ACC-191	Financial Analysis	3
FIN-101	Principles of Banking	3	BUS-290	Employment Search/Workplace Success	1
MAT-140	Finite Math	3	FIN-110	Money and Banking	3
MKT-180	Customer Service Strategies	1	-----	Banking elective/Internship	2/3
SPC-101	Fundamentals of Oral Communication	3	-----	Humanities or History/Cultures core	3
		16			16/17
Second Semester			Fourth Semester		
ACC-152	Financial Accounting	4	BUS-185	Business Law I	3
ECN-120	Principles of Macroeconomics	3	BUS-932	Internship	3
ENG-108	Composition II: Technical Writing	3	FIN-130	Principles of Finance	3
FIN-121	Personal Finance	3	MGT-145	Human Relations in Management	3
MKT-140	Principles of Selling	3	-----	Banking electives/Internship	5
		16			17
Total program credit hours					65/66

From designing plants that produce better crops to finding cures to disease, biotechnology has made a mark on modern life. Most seldom realize nearly everything in our lives, including the food we eat, the clothes we wear and the various products we use every day, is touched in some way by biotechnology.

Students in Kirkwood's Biotechnology program first learn to operate and maintain lab equipment and adhere to federal guidelines. Later in the program, students prepare solutions and reagents; explore microbiology, cell biology, immunology, and genetic engineering and molecule biology; isolate and characterize proteins; and perform chemical assays.

Career opportunities: animal technician, lab assistant, lab-based manufacturing/production technician, lab technician, manufacturing technician, quality control operator, research assistant, research technician, science technician.

Math/Science

240 Linn Hall
319-398-5516

www.kirkwood.edu/mathscience

Entry time

Fall or Spring

Award

Associate of Applied Science degree
2 years (4 semesters)

Liberal Arts transfer and
Certificate options are available.
See advisor for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
BIO-190	Introductory Biotechnology	3	BIO-186	Microbiology	4
BIO-400	Lab Methodology	3	BIO-410	Molecular Biology Techniques I	4
BIO-900	Biotechnology Seminar	0.5	BIO-430	Molecular Genetics	3
CHM-110	Intro to Chemistry	3	BIO-900	Biotechnology Seminar	0.5
CHM-111	Intro to Chemistry Lab	1	MAT-157	Statistics	4
ENG-105	Composition I	3			15.5
MAT-120	College Algebra	3	Fourth Semester (Spring)		
		16.5	BIO-420	Molecular Biology Techniques II	4
Second Semester (Spring)			BIO-900	Biotechnology Seminar	0.5
BIO-112	General Biology I	4	BIO-450	Basic Bioinformatics Course	3
BIO-900	Biotechnology Seminar	0.5	MGT-145	Human Relations in Management	3
CHM-132	Intro Organic & Biochemistry	4	PHI-105	Intro to Ethics	3
CSC-110	Intro to Computers	3	SPC-101	Fundamentals of Oral Communication	3
ENG-108	Composition II: Technical Writing	3			16.5
		14.5	Fifth Semester (Summer)		
			BIO-249	Biotechnology Internship	3
					3
			Total program credit hours		66

CAD/Mechanical Engineering Technology

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

The CAD/Mechanical Engineering Technology curriculum prepares students for entry-level positions as mechanical engineering technicians and provides skills for those already in the field to gain advancement to designer status. Students focus on engineering fundamentals and the means of conveying design intent from drawing layouts and symbols through geometric dimensioning and tolerancing. Industry-standard CAD software is taught during all four semesters of the program to enhance employment opportunities. Competency in engineering fundamentals is built through courses in statics, strength of materials, kinematics, hydraulics, dynamics and machine design. A student can transfer credits from this program to UNI or William Penn University and work toward a B.S. in manufacturing or industrial technology.

Career opportunities: engineering technician, test lab technician, CAD operator/designer, technical writer, mechanical engineering assistant.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
CAD-105	CAD I (Auto CAD I)	2	CAD-141	Parametric Solid Modeling II (Pro E)	3
DRF-141	Engineering Drawings	2	CAD-230	GD & T	2
DRF-142	Engineering Design I	3	EGT-124	Strength of Materials	4
IND-155	Microcomputer Applications	2	EGT-132	Kinematics	4
MAT-745	Technical Mathematics I	4	EGT-146	Hydraulics	3
PHY-190	Physics I	3	MFG-202	Manufacturing Processes	2
		16			18
Second Semester (Spring)			Fourth Semester (Spring)		
CAD-140	Parametric Solid Modeling I (Inventor)	3	EGT-136	Dynamics	4
DRF-143	Engineering Design II	3	EGT-188	Design Problems	4
EGT-125	Applied Statics	4	EGT-194	Machine Design	5
MAT-746	Technical Mathematics II	4	-----	Communication elective (Oral Communication)	3
PHY-192	Physics II	3			
		17			16
Summer			Total program credit hours		
-----	Communication elective	3			76
-----	Humanities or History/Cultures elective	3			
-----	Social Science elective	3			
		9			

Career Studies – Health (Radiologic Technology)

Career Studies-Health is designed for Radiologic Technology students in partnership with the Mercy/St. Luke’s School of Radiologic Technology.

Health Science
223 Linn Hall
319-398-5566

www.kirkwood.edu/healthscience

The two-year radiologic technology technical program is taught through Mercy/St. Luke’s, begins each summer and has a separate application process.

Entry time

Fall, Spring or Summer

Students must complete prerequisite courses at Kirkwood in order to enter the Mercy/St. Luke’s program. After they complete the program and receive their certificate in Radiologic Technology, students can transfer those credits back to Kirkwood and receive an Associate of Applied Science degree in Career Studies.

Award

Associate of Applied Science degree

Career opportunities: hospitals, outpatient clinics, physicians’ offices.

Course Number	Course Title	Credit Hours
BCA-189	Microcomputer Literacy	1
BIO-168	Human Anatomy and Physiology I	4
BIO-173	Human Anatomy and Physiology II	4
ENG-105	Composition I	3
HSC-115	Medical Terminology	4
MAT-102	Intermediate Algebra	4
PSY-111	Intro to Psychology	3
SPC-101	Fundamentals of Oral Communication	3
-----	Humanities elective	3

Kirkwood credit hours **29**

Upon completion of Mercy/St. Luke’s School of Radiologic Technology program, 55 technical credits can be transferred to Kirkwood Community College toward an Associate of Applied Science (A.A.S.) degree.

Mercy/St. Lukes’ credit hours **55**

Total program credit hours **84**

Carpentry

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Diploma
 1 year (2 semesters)

The Carpentry program prepares students to enter the skilled building trades. Students are given a hands-on intensive introduction to the skills used by carpenters. The classroom experience combines lecture and lab activities that cover all aspects of a carpenter's job. Students may choose to pursue an A.A.S. degree in the Construction Management program upon completion of the Carpentry program.

Career opportunities: residential construction carpenter, commercial construction carpenter, gateway to apprenticeship program.

Course Number	Course Title	Credit Hours
First Semester (Fall)		
CON-108	Construction Safety	1
CON-116	Architectural Plans and Specs	2
CON-273	Carpentry Lab I	6
CON-311	Building Construction Systems I	3
MAT-716	Industrial Mathematics II	3
-----	Social Science elective	3
		18
Second Semester (Spring)		
CON-134	Surveying and Site Layout	2
CON-274	Carpentry Lab II	8
CON-312	Building Construction Systems II	2
CON-321	Residential Estimating	2
		14
Total program credit hours		32

CNC Machining Technology

Computer Numerical Control (CNC) machinists manufacture precision parts and products. They often complete many set-ups for short runs to meet just-in-time delivery demands. People who enter this field must be flexible and have basic knowledge of machine tool CNC.

Students program, edit, set up and operate CNC lathes and mills, as well as study quality control methods known as statistical process control. They also learn special quality control equipment, such as coordinate measuring machines, and advanced automated production methods.

Students can transfer credits from this program to UNI and work toward a B.A. in Technology Management.

Career opportunities: machinist, mold builder, salesperson, job shop technician, CNC programmer/operator, quality control technician, tool and die maker.

Industrial Technologies

Jones Hall

319-398-4983

www.kirkwood.edu/industrialtech

Entry time

Fall or Spring

Award

Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Summer Term		
MAT-735	Machinist Mathematics I	2	MFG-140	Geometric Dimensioning & Tolerancing	1
MFG-120	Machinist Trade Printreading I	1	MFG-302	CNC Fundamentals	3
MFG-213	Basic Machining Theory	5	MFG-420	Jig and Fixture Design	4
MFG-222	Machine Operations I	4			8
MFG-227	Advanced Machine Operations I	4	Third Semester (Fall)		
		16	CAD-105	CAD I	2
Second Semester (Spring)			CAD-106	CAD II	3
IND-155	Microcomputer Applications	2	MAT-137	Applications of Geometry	1
MAT-736	Machinist Mathematics II	1	MFG-311	Intermediate CNC	6
MFG-130	Machine Trade Printreading II	1	-----	Communication elective	3
MFG-215	Advanced Machine Theory	3	-----	Humanities or History/Cultures elective	3
MFG-228	Machine Operations II	4			18
MFG-230	Advanced Machine Operations II	4	Fourth Semester (Spring)		
		15	MFG-317	Automated Production Methods	5
			MFG-313	Advanced CNC	6
			MGT-145	Human Relations in Management	3
			-----	Communication elective	3
					17
Total program credit hours					74

Computer Information Systems

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

Associate of Science Career Option
 2 years (4 semesters)

Certificate in Java and VB.Net are available.
 See advisor for information.

Students who are creative with computer technology and want to work in the business world should consider a career in Computer Information Systems. Computers and other information technologies are the technical foundations, or tools, of information systems. The Associate of Applied Science degree puts graduates to work in the computer programming field. Students learn to design, write, test and document computer programs in languages such as Java, C++ and Visual Basic.Net. The Associate of Science Career Option degree prepares students to transfer to a four-year school and pursue a degree in Management Information Systems. See page 97 for details.

Career opportunities: computer programmer, business systems analyst, web designer, operations systems analyst, client/server application developer, internet programmer.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CIS-126	Intro to Programming Logic with Language	4	CIS-176	Java II	4
CIS-570	Intro to iSeries eServer	2	CIS-190	Internet Programming I	4
CSC-110	Intro to Computers	3	CIS-504	Structured Systems Analysis	3
ENG-101	Elements of Writing <i>or</i>	3	CIS-609	Visual Basic.Net	4
ENG-105	Composition I		MGT-145	Human Relations in Management	3
MAT-102	Intermediate Algebra	4			18
		16	Fourth Semester		
Second Semester			ACC-152	Financial Accounting	4
CIS-153	Data Structures	4	BUS-290	Employment Search & Workplace Success	1
CIS-172	Java	4	CIS-180	J2EE Servlets and JSP	4
CIS-333	Database and SQL	4	CIS-192	Internet Programming II	4
ENG-105	Composition I <i>or</i>	3	CIS-610	Advanced Visual Basic.Net	4
ENG-106	Composition II				17
-----	Humanities or History/Cultures	3			
		18	Total program credit hours		
					69

Computer Support Specialist

Computer support specialists provide technical assistance to users as well as maintain, upgrade, and repair computer systems and networks. Students interested in this field should have an interest in working with people. Specialists constantly interact with customers and fellow employees as they answer questions and give valuable advice. They should also enjoy learning about new technology and be willing to work on both hardware and software systems. Good writing and communications skills are also required. An evening/weekend schedule option is available.

Career opportunities: computer support specialists, technical support specialists, help desk technicians.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall, Spring or Summer

Award
 Associate of Applied Science degree
 2 years (4 semesters)
 3 years for evening/weekend program

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CSC-110	Intro to Computers	3	BCA-290	Web Design Principles	3
MGT-145	Human Relations in Management	3	CIS-128	Programming Concepts	3
NET-122	Computer Hardware Basics	3	NET-174	LAN Administration	3
NET-154	Networking Basics	3	SPC-101	Fundamentals of Oral Communication	3
-----	Communication requirement	3	-----	Humanities	3
		15			15
Second Semester			Fourth Semester		
BCA-213	Intermediate Computer Business Apps	3	ACC-111	Intro to Accounting	3
CIS-135	Microcomputer Operating Systems	3	BUS-290	Employment Search/Workplace Success	1
CIS-207	Fundamentals of Web Programming	3	CIS-307	Intro to Databases	3
NET-137	Advanced PC Concepts	3	MAT-102	Intermediate Algebra	4
NET-212	Cisco Networking	3	NET-600	Network Security Basics	3
NET-785	Fundamentals of Desktop Support	3			14
		18	Total program credit hours		62

Construction Management

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

Certificate options available.
 See advisor for information.

The Construction Management program provides entry-level skills and knowledge for students who want to pursue one of the many careers available in the construction industry. Classes during the first year emphasize hands-on laboratory experiences in construction practices, architectural drafting and CAD, estimating, and microcomputer applications. The summer session allows students to gain practical experience during a full-time, paid internship in the construction field. Second-year classes emphasize skills and knowledge development in management, scheduling, estimating and legal issues.

Career opportunities: residential, commercial or highway construction; material suppliers; building inspection; component manufacturing.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Summer Term		
ARC-112	Architectural Drafting I	3	CON-932	Internship	6
CON-116	Architectural Plans and Specs	2			6
CON-134	Surveying and Site Layout	2	Third Semester (Fall)		
CON-311	Building Construction Systems I	3	CON-272	Construction Practices	3
IND-155	Microcomputer Applications	2	CON-323	Light Commercial Estimating	3
MAT-716	Industrial Math II	3	CON-331	Construction Materials Science	2
		15	CON-335	Construction Planning & Scheduling	2
Second Semester (Spring)			MGT-101	Principles of Management or	3
ARC-195	Architectural Illustration & Model Bldg or	3	MGT-130	Principles of Supervision	
-----	Humanities or History/Cultures elective		-----	Communication elective	3
CAD-200	CAD Softplan	3			16
CON-108	Construction Safety	1	Fourth Semester (Spring)		
CON-190	Construction Skills Lab	3	CON-324	Commercial Estimating	3
CON-312	Building Construction Systems II	2	CON-328	Construction Law	3
CON-320	Construction Computer Applications	2	CON-329	Construction Management	3
CON-321	Residential Estimating	2	CON-330	Construction Management Applications	3
		16	-----	Communication elective	3
			-----	Social Science elective	3
					18
			Total program credit hours		71

Students in Kirkwood's food service programs prepare for their careers through practical experience in management, food preparation and service.

Instructors supervise students in the daily operation of The Class Act, a student-operated restaurant on campus. The restaurant features fine dining for Kirkwood students, staff and the public. Students take a leadership role in planning, preparing and servicing catered events on campus during their last semester. All students in laboratory courses wear professional uniforms.

Field trips to various types of food service establishments and an optional trip to the industry's national convention are also included in the course of study. International travel and education opportunities are available for culinary students.

Career opportunities: chefs, cooks, catering managers, other food service professionals.

Business & Information Technology
 217 Iowa Hall
 319-398-5468
www.kirkwood.edu/businessdept

Entry time
 Fall or Spring

Award
 Associate of Applied Science degree
 2 years (4 semesters)
 Certificate in Bakery is available.
 See advisor for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BCA-189	Microcomputer Literacy	1	ACC-111	Intro to Accounting	3
HCM-100	Sanitation and Safety	2	COM-723	Workplace Communications	3
HCM-147	Food Production I	4	HCM-166	Culinary Arts (Lab)	4
HCM-148	Food Fundamentals	3	HCM-177	Culinary Arts (Lecture)	1
HCM-324	College Orientation - Hospitality	1	HCM-271	Artistic Display	1
MAT-700	Basic Math	3	HCM-322	Intro to Hospitality II	0.5
MGT-145	Human Relations in Management	3	HCM-330	Hospitality Personnel Management	3
		17	-----	Elective	2
			17.5		
Second Semester			Fourth Semester		
HCM-117	Bakery I	2	BUS-290	Employment Search/Workplace Success	1
HCM-174	International Cuisine	4	COM-744	Oral Communication in the Workplace	3
HCM-195	Dining Room Techniques (Lecture)	1	HCM-270	Garde Manger	2
HCM-204	Dining Room Techniques (Lab)	4	HCM-315	Intro to Wines & Spirits	2
HCM-233	Menu Planning and Nutrition	3	HCM-323	Intro to Hospitality III	0.5
HCM-251	Purchasing and Cost Control	3	HCM-340	Hospitality Events & Catering	4
HCM-321	Intro to Hospitality I	0.5	HCM-403	Food and Culture	3
		17.5			15.5
Total program credit hours					67.5

Dental Assisting

Health Science

223 Linn Hall
 319-398-5566
www.kirkwood.edu/healthscience

Entry time

Fall or Spring

Award

Diploma
 1 year (3 semesters)

Associate of Applied Science degree
 after completion of additional required courses.

Dental assistants help dentists chairside and also perform functions such as polishing teeth, taking X-rays, mixing materials and sterilizing instruments. Some assistants also manage the office and patient accounts, schedule appointments and purchase supplies.

Career opportunities: private dental office, research/teaching, clinics, consulting, hospitals, sales and insurance claims, specialty practices such as orthodontics or children's dentistry.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
DEA-404	Dental Materials for the DA	3.5	COM-744	Oral Communications in the Workplace	3
DEA-517	Dental Assisting I	3.5	DEA-519	Dental Assisting III	1.5
DEN-100	Fundamentals of Dentistry	3.5	DEA-581	DA Clinic II	4.5
DEN-120	Dental Anatomy	3	DEA-702	Dental Office Procedures	2
DEN-130	Head and Neck Anatomy	1.5			11
HSC-107	Professionals in Health	2			
HSC-210	Health Skills I	1			
		18			
Second Semester			Total diploma program hours		
DEA-285	Oral Pathology for DA	1			46
DEA-518	Dental Assisting II	1.5	Associate of Applied Science Degree Courses		
DEA-580	DA Clinic I	4	ENG-105	Composition I	3
DEA-610	Specialty Dentistry	4.5	PSY-111	Intro to Psychology	3
DEN-150	Dental Emergencies	0.5	-----	Math elective	2
DEN-200	Preventive Dentistry	1.5	-----	Humanities elective	3
DEN-220	Dental Nutrition	1	-----	Electives	7
DEN-300	Dental Radiography	3			18
		17			
			Total program credit hours		
					64

Dental Hygiene

Dental hygienists help prevent, detect and treat diseases of the mouth, playing a key role in the pursuit of optimal patient health via education and treatment planning. Hygienists work independently with patients.

Dental hygienists remove calculus deposits and stains from teeth, polish teeth, apply sealants and fluoride, take X-rays, record medical and dental histories, and educate patients on how proper brushing, flossing and eating habits can help maintain a healthy mouth.

Career opportunities: dental offices/clinics/hospitals, government agencies, insurance claims processing, specialty dental practices, sales, teaching.

Health Science

223 Linn Hall

319-398-5566

www.kirkwood.edu/healthscience

Entry time

Fall

Award

Associate of Applied Science degree

2 years (5 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Prerequisite courses			Third Semester		
BCA-189	Microcomputer Literacy	1	BIO-186	Microbiology	4
BIO-168	Human Anatomy and Physiology I	4	DEN-150	Dental Emergencies	0.5
CHM-110	Intro to Chemistry	3	DEN-220	Dental Nutrition	1
CHM-111	Intro to Chemistry Lab	1	DHY-140	General and Oral Pathology	2
MAT-731	Intro to Math	2	DHY-270	Local Anesthesia for DH	1
		11	DHY-285	Dental Hygiene III	3
					11.5
First Semester			Fourth Semester		
DEN-100	Fundamentals of Dentistry	3.5	DHY-134	Therapeutics and Pain Control	2
DEN-120	Dental Anatomy	3	DHY-211	Periodontology	2
DEN-130	Head and Neck Anatomy	1.5	DHY-250	Community Dental Health	1.5
DEN-200	Preventive Dentistry	1.5	DHY-296	Dental Hygiene IV	5
DHY-173	Dental Hygiene I	4	SPC-101	Fundamentals of Oral Communication	3
HSC-107	Professionals in Health	2			13.5
HSC-210	Health Skills I	1	Fifth Semester		
		16.5	DHY-306	Dental Hygiene V	5
Second Semester			ENG-105	Composition I	3
BIO-173	Human Anatomy and Physiology II	4	PSY-111	Intro to Psychology	3
CHM-132	Intro to Organic & Biochemistry	4	SOC-110	Intro to Sociology	3
DEN-300	Dental Radiography	3	-----	Humanities elective	3
DHY-186	Dental Hygiene II	4			17
DHY-220	Dental Materials	1.5	Total program credit hours		
		16.5			86

Dental Technology

Health Science

223 Linn Hall
 319-398-5566
www.kirkwood.edu/healthscience

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (5 semesters)

The goal and challenge for a dental technician is to create a restoration that is a perfect match to a patient's natural tooth. Artistic and creative abilities are valuable assets for a dental technician. By using several technologies, a dental technician improves patients' quality of life, appearance and health, not to mention creates beautiful teeth and fabulous smiles. Although a majority of the work provided by dental technicians is done independently, they are valued members of the dental team.

Career opportunities: large production laboratory, small multi-task laboratory, technical representative, research.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BCA-189	Microcomputer Literacy	1	DLT-456	Intro to Ceramics	5
DEN-120	Dental Anatomy	3	PSY-111	Intro to Psychology	3
DLT-152	DLT Oral Anatomy	1	-----	Humanities elective	3
DLT-156	Dental Anatomy Lab	2			11
DLT-250	Foundations of Dental Technology	3	Fourth Semester		
DLT-251	Intro to Dentures	5	DLT-350	Fixed Dental Prosthodontics	5
HSC-107	Professionals in Health	2	DLT-351	Removable Dental Prosthodontics	5
MAT-731	Intro to Math	2	DLT-352	Dental Technology Industry	3
		19	DLT-851	DT Clinic	1
Second Semester			ENG-105	Composition I	3
DLT-253	Intro to Partial Dentures	5			17
DLT-254	Intro to Crown/Bridge	5	Fifth Semester		
DLT-445	Orthodontics	3	Advanced course (choose one):		
DLT-565	Occlusion	2	DLT-451	Adv Fixed Dental Prosthodontics	12
SPC-101	Fundamentals of Oral Communication	3	DLT-452	Adv Removable Dental Prosthodontics	
		18			12
			Option		
			DLT-450	Advanced Orthodontics	8
			Total program credit hours		
			77		

Diesel Ag Technology

The Diesel Ag Technology program offers a two-year A.A.S. degree for students entering the workforce, in either agriculture equipment or heavy equipment maintenance and repair. Today's technicians not only diagnose and fix mechanical problems, they also must understand and troubleshoot the computer-controlled systems found in diesel engines, power trains and hydraulic systems. The program also provides industry training and professional development for graduates. Currently, more than 30 local businesses employ one or more former students who participated in our program.

Career opportunities: general service technician, specialized service technician, parts manager, warranty administrator, shop coordinator, owner/operator, teacher/trainer, safety inspector.

Ag Sciences

Washington Hall
319-398-5591

www.kirkwood.edu/agrisciences

Entry time

Fall

Award

Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours	
First Semester (Fall)			Summer			
AGM-124	Tech Procedures for Power Mechanics Technicians	3	BUS-161	Human Relations	3	
DSL-355	Fundamentals of Internal Combustion Engines	3	IND-155	Microcomputer Applications	2	
AGM-113	Hydraulics I	3	AGM-932	Internship	2	
AGM-405	Ag Engines	3			7	
MAT-715	Industrial Math I	3	Third Semester (Fall)			
-----	Communication elective	3	AGM-403	Combine Operation and Adjustment	2	
		18	AGM-404	Combine Servicing	4	
Second Semester (Spring)			AGM-422	Diesel Fuel Systems	4	
WEL-331	Welding Fundamentals	2	AGM-440	Power Shift Transmissions	3	
DSL-143	Fundamentals of Electricity	3	-----	Communication elective	3	
AGM-406	Fundamentals of Power Transfer	3	-----	Commercial Driver's License (recommended)	0	
AGM-419	Machinery Servicing	3			16	
AGM-103	Ag Electrical	3	Fourth Semester (Spring)			
		14	AGM-409	Ag Diagnosis	13	
			AGM-414	Fundamentals of Air Conditioning	2	
			-----	Humanities	3	
					18	
			Total program credit hours			73

Diesel Truck Technology

Ag Sciences

Washington Hall
319-398-5591
www.kirkwood.edu/agrisciences

Entry time

Fall

Award

Associate of Applied Science degree
ACE program – 17 months in length.

The Diesel Truck Technology program gives graduates training in diesel truck and diesel-powered equipment maintenance and repair. Courses include engine repair, welding, electricity and electronics, air conditioning, powertrains, mechanical and electronic fuel systems, air brakes, truck and trailer suspensions, and trailer service and repair.

Career opportunities: shop technicians, shop foremen, sales associates and sales managers, service managers, parts technicians and parts managers.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Summer Term		
AGM-113	Hydraulics I	3	DSL-156	Truck Electronics	3
AGM-124	Technical Procedures for Power Mechanics	3	DSL-308	Cooling Systems	2
DSL-345	Truck Engines	3	DSL-630	Air Brakes & ABS	2
DSL-355	Fundamentals of Internal Combustion Engines	3	DSL-642	Steering & Suspension	2
MAT-715	Industrial Math I	3	DSL-802	Trailer Servicing	3
-----	Communication elective	3	IND-155	Microcomputer Applications	2
		18			14
Second Semester (Spring)			Third Semester (Fall)		
AGM-406	Fundamentals of Power Transfer I	3	AGM-414	Fundamentals of Air Conditioning	2
BUS-161	Human Relations	3	AGM-422	Diesel Fuel Systems	4
DSL-143	Fundamentals of Electricity	3	AGM-932	Internship	2
DSL-543	Truck Clutches	3	DSL-424	EFI Engine Systems	4
WEL-331	Welding Fundamentals	2	-----	Humanities or History/Cultures course	3
-----	Communication elective	3	-----	Commercial Driver's License (recommended)	0
		17			15
			Total program credit hours		64

Electroneurodiagnostic Technology

Electroneurodiagnostics is the study and recording of electrical activity in the brain and nervous system. An electroneurodiagnostic (END) technologist uses an electroencephalograph (EEG) instrument to record electrical impulses transmitted by the brain and nervous system. These recordings assist physicians in the diagnosis of a variety of neurological problems—from headaches and dizziness to seizure disorders, strokes, degenerative brain diseases and sleep disorders.

Career opportunities: hospitals, outpatient clinics, sleep labs.

Health Science
223 Linn Hall
319-398-5566
www.kirkwood.edu/healthscience

Entry time
Fall (every odd-numbered year)

Award
Associate of Applied Science degree
2 years (5 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BCA-189	Microcomputer Literacy	1	END-400	Evoked Potentials I	1
BIO-168	Human Anatomy and Physiology I	4	END-810	EN Clinic I	6
END-100	Intro to END	2.5	SPC-101	Fundamentals of Oral Communication	3
HSC-107	Professionals in Health	2			10
HSC-117	Basic Medical Terminology	2.5	Fourth Semester		
HSC-210	Health Skills I	1	END-420	Evoked Potentials II	2
HSC-211	Health Skills II	1	END-830	EN Clinic II	7.5
MAT-732	Intro to Math	3	ENG-105	Composition I	3
		17	PSY-111	Intro to Psychology	3
Second Semester					15.5
BIO-173	Human Anatomy and Physiology II	4	Fifth Semester		
END-200	Applied Electronics/Instrumentation	1.5	END-850	EN Clinic III	5.5
END-310	EN Technical Science	7	END-870	Sleep Technology	6.5
END-330	EN Clinic Science	2			12
-----	Humanities elective	3			
		17.5	Total program credit hours		
					72

Electronics Engineering Technology

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

The Electronics Engineering Technology program balances theory and practical applications to help students design, test, analyze, operate and troubleshoot complex electronic systems. The program integrates LabVIEW®, a graphic-based programming language used by many of the major technology-based employers for data acquisition, process control and automated test instrumentation. Students can transfer more than 40 EET credit hours to UNI toward a B.S. in Electrical and Information Engineering Technology. The curriculum may also be modified to maximize credits transferable to BSEE and BSEET degree programs. EET graduates may also seek certification by the Electronics Technicians Association, International Inc.

Career opportunities: field-service, electronics design, electronics testing, biomedical electronics, avionics, printed circuit board computer-aided design, technical writer, computer-integrated manufacturing, advanced industrial manufacturing, electronic systems repair, computer repair, controls, security systems, radio communications, component testing, instrumentation.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
ELT-277	Electronic Practices	4	ELT-520	Communication Electronics I	4
ELT-345	Electric Circuits I	5	ELT-616	Microprocessors I	4
MAT-745	Technical Mathematics I	4	ELT-855	Communication Projects	3
-----	Communication elective	3	IND-155	Microcomputer Applications	2
		16	PHY-230	UTC Physics I	3
					16
Second Semester (Spring)			Fourth Semester (Spring)		
ELT-341	Electric Circuits II	4	ELT-301	Professional Preparation	1
ELT-517	Active Devices I: Transistor Amplifiers	6	ELT-521	Communication Electronics II	4
MAT-746	Technical Mathematics II	4	ELT-621	Microprocessors II	4
-----	Communication elective	3	ELT-845	Design Projects	3
		17	PHY-232	UTC Physics II	3
					15
Summer Term			Total program credit hours		
ELT-306	Digital Circuits	3			76
ELT-518	Active Devices II: Operational Amplifiers	3			
-----	Humanities or History/Cultures elective	3			
-----	Social Science elective	3			
		12			

English Language Acquisition (ELA) Program

Kirkwood's award-winning English Language Acquisition (ELA) program offers many opportunities to practice English speaking and writing skills. Those entering the program will attend an orientation session to learn more about Kirkwood, the American culture and what to expect from the ELA program.

All courses are taught in English, which helps prepare students for further study at Kirkwood or other colleges and universities.

Placement

English language skills will be assessed to determine which ELA level is most appropriate and when each student will begin the ELA program. A consultation will be held with the ELA coordinator for those with scores lower than Level 2 on the test.

- Level 2: Beginning English
- Level 3: Advanced Beginning English
- Level 4: Intermediate English
- Level 5: Beginning Advanced English

English

3051 Cedar Hall
319-398-5581
www.kirkwood.edu/english

Entry time

Fall, Spring or Summer

Award

Kirkwood English Language Acquisition
Completion Certificate
2 to 4 semesters, depending on
your English language ability

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Level 2			Level 4		
ESI-016	L2 ELA Writing	2	ESI-062	L4 Culture and Conversation	3
ESI-018	L2 Grammar/Usage	4	ESI-063	L4 ELA Writing	3
ESI-019	L2 Listening Skills and Culture	3	ESI-064	L4 Grammar/Usage	3
ESI-021	L2 Phonetics and Pronunciation	3	ESI-068	L4 Reading and Vocabulary	3
ESI-023	L2 Reading and Vocabulary	3	ESI-069	L4 Presentations	3
		15			15
Level 3			Level 5		
ESI-037	L3 ELA Writing	2	ENG-101	International Elements of Writing	3
ESI-038	L3 Grammar/Usage	4	ENG-150	Fundamentals of English Grammar	3
ESI-039	L3 Listening Skills, Conversation and Culture	3	ESI-090	L5 Culture and Conversation	3
ESI-040	L3 Phonetics and Pronunciation	3	RDG-130	International Effective Reading Skills	3
ESI-041	L3 Reading and Vocabulary	3	SDV-109	College 101	3
		15	SPC-112	International Public Speaking	3
					18

Entry-Level Firefighter

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall or Spring

Award

Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

Diploma option and Certificate in Fire Science Management are available. See advisor for information.

Certification

Firefighter I, EMT-B (state and national)

The Entry-Level Firefighter curriculum can help recent high school graduates or volunteers improve their employment prospects. This program features some evening and online classes.

Career opportunities: emergency medical care, fire prevention education, training firefighters, maintenance and specialization in hazardous materials.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			EMS-233	EMT - Basic Theory	6.5
CSC-110	Intro to Computers	3	EMS-235	EMT - Basic Practical Applications	0.5
ENG-101	Elements of Writing	3	PSY-111	Intro to Psychology	3
FIR-105	Fire Science Career Orientation	2	-----	Two Fire Science Technical courses	6
FIR-110	History and Philosophy of the Fire Service	2			16
-----	One Fire Science Technical course	3	CHM-110	Intro to Chemistry	3
		13	CHM-111	Intro to Chemistry Lab	1
Second Semester (Spring)			-----	Humanities elective	3
ENG-105	Composition I	3	-----	Two Fire Science Technical courses	6
MAT-102	Intermediate Algebra	4			13
MGT-101	Principles of Management	3			
-----	One Fire Science Technical course	3			
		13			
Summer Term					
FIR-140	Firefighter I - Unit I	2			
FIR-141	Firefighter I - Unit II	2			
FIR-142	Firefighter I - Unit III	3			
FIR-289	Firefighter I - Unit IV/ Certificate Preparation	2			
		9			

The Floral Careers program provides students with advanced training in floral design, plant identification and care, retail flower shop operations, advertising, visual merchandising, inventory control, and order processing. Within the Floral Careers program, there is a major emphasis in wedding and funeral designs, purchasing and interior plant maintenance for the retail florist.

Career opportunities: floral designer, office management for small businesses, greenhouse specialist, production and distribution of floral products, interior plant maintenance, retail florist owner/manager, marketing/buying, wedding consultant, merchandising and display artist, wholesale florist.

Ag Sciences

Horticulture/Floral Careers
319-398-5441
www.kirkwood.edu/agrisciences

Entry time

Fall

Award

Diploma
1 year (2 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			1st Half of Summer Term		
AGC-932	Internship	4	ADM-133	Business Math and Calculators	3
AGF-120	Floral Plant Identification and Care I	2	AGF-144	Floral Design III A	2
AGF-130	Floral Careers Computer Literacy	2	AGF-300	Design Show Seminar	2
AGF-140	Floral Design I	3			7
AGF-150	Retail Flower Shop Operation I	3	2nd Half of Summer Term		
AGF-160	Event Planning I	1	AGF-146	Floral Design III B	1
BUS-161	Human Relations	3	AGF-154	Retail Flower Shop Operation III	2
		18	AGF-164	Event Planning III	3
Spring Term I					6
AGC-932	Internship	4	Total program credit hours		
AGF-122	Floral Plant Identification and Care II	2			50
AGF-135	Floral Careers Plant Propagation	2			
AGF-142	Floral Design II	3			
AGF-152	Retail Flower Shop Operation II	4			
AGF-162	Event Planning II	1			
COM-723	Workplace Communications	3			
		19			

Food Service Assistant

Business & Information Technology

217 Iowa Hall
 319-398-5468
www.kirkwood.edu/businessdept

Entry time

Fall or Spring

Award

Diploma
 1 year (2 semesters)

The Food Service Assistant program provides students with the technical knowledge and skills required to enter the quantity food preparation and service industry. Students prepare for their careers through practical experience in management, food preparation and service.

Instructors supervise students in the daily operations of The Class Act, a student-operated restaurant on campus. The restaurant features fine dining for Kirkwood staff, students and the public.

Food service workers assist cooks and chefs with the daily operations of kitchen and dining facilities. They perform a variety of tasks, and have the opportunity to work in hospitals, corporate and college dining services, long-term care facilities, restaurants and other food service operations.

Career opportunities: food preparation worker, cooking assistant, cafeteria attendant.

Course Number	Course Title	Credit Hours
First Semester		
BCA-189	Microcomputer Literacy	1
HCM-100	Sanitation and Safety	2
HCM-117	Bakery Lab I (Lab)	2
HCM-147	Food Production (Lab)	4
HCM-195	Dining Room Techniques (Lecture)	1
HCM-204	Dining Room Techniques (Lab)	4
HCM-324	College Orientation - Hospitality	1
MAT-700	Basic Math	3
		18

Second Semester

BUS-290	Employ Search/Workplace Success	1
COM-723	Workplace Communications	3
HCM-148	Food Fundamentals (Lecture)	3
HCM-174	International Cuisine (Lab)	4
HCM-233	Menu Planning & Nutrition	3
HCM-321	Intro to Hospitality I	0.5
MGT-145	Human Relations in Management	3
		17.5

Course Number	Course Title	Credit Hours
Food Service Training electives		
HCM-125	Basic Cake Decorating	1
HCM-404	Culinary Travel Studies	2-3
<p>In addition to completing the course work listed above, all students are required to complete 32 clock hours of industry experience by participating in on-campus, program-related catering events and work assignments. This is a requirement for the Food Service Assistant diploma.</p>		
Total program credit hours		35.5

Geographic Information Systems

Geographic Information Systems is a powerful set of integrated technology tools intended to assist with collection, storage, manipulation, analysis and visualization of real-world spatial data. This information is used in business and marketing, resource management, mapping, environmental management and other industries. GIS has exploded into one of the fastest growing and most widely adopted technologies in the information age.

Career opportunities: GIS analyst, GIS technician, GIS data specialist, GIS specialist, GIS mapping technician, engineering technician, GIS mapping assistant, GIS application specialist, cartographer, photogrammerist, surveyor technician.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall or Spring

Award
 Associate of Applied Science degree
 2 years (4 semesters)
 Certificate option available.
 See advisor for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CSC-110	Intro to Computers	3	CAD-105	CAD 1	2
ENG-105	Composition I	3	CIS-307	Intro to Databases	3
GIS-110	Survey of GIS	3	GIS-210	Mapping for Decision Making	3
GIS-112	Intro to ArcGIS	3	GIS-212	Managing GIS Projects	3
MAT-107	Survey of Math	3	-----	Elective	3
		15	-----	Humanities elective	3
Second Semester			17		
CIS-128	Programming Concepts	3	Fourth Semester		
GIS-120	Geospatial Data Collection	3	ADM-154	Business Communication	3
GIS-122	Governmental GIS	3	BUS-932	Internship or	3
MAT-155	Statistical Ideas	3	GIS-240	GIS Projects	
MGT-145	Human Relations in Management	3	GIS-214	Internet Mapping Services	3
-----	Elective	3	MKT-110	Principles of Marketing	3
		18	-----	Electives	2
			14		
Total program credit hours					64

Golf Course and Athletic Turfgrass Management

Ag Sciences

Horticulture/Floral Careers

319-398-5441

www.kirkwood.edu/agrisciences

Entry time

Summer or Fall

Award

Associate of Applied Science degree

2 years (4 semesters, 1 summer)

Diploma option available.

See advisor for information.

Maintaining turfgrass facilities requires a lot of hands-on skills along with leadership and team-work qualities. As a student in this program, you will engage in the maintenance and development of grounds and turf for personal residences, golf courses, parks, recreation areas, and college and university campuses. Through the classroom and lab experiences you'll learn to design, install and maintain turfgrass systems; develop an understanding of cultural and chemical turf controls; install and repair irrigation systems; and operate and maintain turf equipment. You'll also focus on computer literacy, team building and leadership responsibilities.

Career opportunities: golf course assistant superintendent; athletic field manager; grounds director; lawn care company foreman; sales representative for an equipment, fertilizer, chemical, seed, sod or spray company.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			Fall Term II		
AGH-110	Success in Horticulture	1	AGH-165	Irrigation Installation & Repair	2
AGH-112	Intro to Turfgrass Management	3	AGH-282	Pesticide Application Certification	1
AGH-123	Woody Plant Materials	3	AGH-400	Athletic Field Maintenance	3
AGH-144	Landscape Construction/Design	3	AGH-405	Golf Course Maintenance	3
AGH-236	Plant Material Maintenance	3	COM-744	Oral Communication/Workplace	3
AGH-411	Grounds Computer Applications	2	MGT-145	Human Relations in Management or	3
-----	Humanities Requirement	3	BUS-161	Human Relations	
		18			15
Spring Term I			Spring Term II		
AGC-313	Leadership in Agriculture-Hort Club	1	AGH-152	Landscape Design Techniques	3
AGC-932	Internship	3	AGH-163	Irrigation Design	2
AGH-102	Horticulture Math	3	AGH-211	Advanced Turfgrass Management	3
AGH-141	Equipment Operations	3	AGH-238	Soil and Water Conservation	3
AGH-253	Insects and Diseases	3	AGH-425	Grounds Maintenance	3
AGH-279	Botany for Horticulture	2	AGP-329	Introduction to GPS	3
COM-723	Workplace Communications or	3			17
ENG-105	Composition I				
		18	Total program credit hours		68

Graphic Communication Technology

The Graphic Communication Technology program prepares students for employment in the technical production area of the printing and graphic communication industry, from basic layout and design to the final printed piece. Following an introduction to the printing industry, the classes teach students practical knowledge and provide hands-on experience with both desktop and graphic programs. In addition to designing for print, students also learn to design pages for the World Wide Web. Students receive extensive experience working on Macintosh computers using the industry standard software packages. Students may transfer credits from this program to Ashford University or UNI towards a B.A. in Graphic Communication or Technology Management.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall, Spring or Summer

Award
 Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

Career opportunities: printing plants, publishing companies, in-house print shops, advertising agencies, newspapers, in-house graphics.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
ADM-133	Business Math and Calculators	3	GRA-128	Illustrator II	3
ART-120	2-D Design	3	GRA-132	Digital Layout II	3
ENG-101	Elements of Writing	3	GRA-140	Digital Imaging	3
GRA-101	Survey of Graphic Communication	3	GRA-151	Web Design	3
MGT-145	Human Relations in Management	3	GRA-195	Intro to Web Media	3
		15			15
Second Semester (Spring)			Fourth Semester (Spring)		
ART-133	Drawing	3	GRA-141	Digital Imaging II	3
ART-184	Photography	3	GRA-152	Web Design II	4.5
CSC-110	Intro to Computers	3	GRA-192	Production Techniques	4.5
ENG-105	Composition I	3	GRA-199	Graphic Communication Job Shadow	1
MKT-150	Principles of Advertising	3			13
		15			
Summer			Total program credit hours		
GRA-127	Illustrator I	3			64
GRA-131	Digital Layout	3			
		6			

Health Information Technology

Health Science

223 Linn Hall
 319-398-5566
www.kirkwood.edu/healthscience

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (5 semesters)

Health information technology (HIT) professionals collect, analyze and manage patient health information, then communicate with patients, physicians, nurses, administrators, lawyers and insurance companies about the information in these records.

Health information technicians assemble patient health information and make sure medical records are complete. HITs code each diagnosis and procedure and may communicate with physicians to clarify diagnoses or obtain additional information. HITs provide reliable and valid information that drives the health care industry.

Career opportunities: hospitals, long-term care facilities, physicians' offices, correctional facilities, home health agencies, mental health agencies, insurance companies, computer software companies.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Fourth Semester		
BIO-168	Human Anatomy and Physiology I	4	ENG-105	Composition I	3
CSC-110	Intro to Computers	3	HIT-350	Health Information Systems	2.5
HIT-220	Intro to Medical Coding	2.5	HIT-420	Legal Aspects of Health Information	2
HIT-360	Intro to HIT	3	HIT-431	Quality Improvement	3
HSC-107	Professionals in Health	2	HIT-552	HI Professional Practice Experience III	3
HSC-115	Medical Terminology	4			13.5
		18.5	Fifth Semester		
Second Semester			HIT-450	Health Statistics	2
BCA-213	Intermediate Computer Business Apps	3	HIT-490	Health Management and Supervision	3.5
BIO-173	Human Anatomy and Physiology II	4	HIT-553	HI Professional Practice Experience IV	2
HIT-240	Advanced Coding/Classification	3	PSY-111	Intro to Psychology	3
HIT-495	Medical Office Management	2.5	SPC-101	Fundamentals of Oral Communication	3
HIT-550	HI Professional Practice Experience I	2.5	-----	Humanities elective	3
HSC-142	Elements of Pharmacology	1			16.5
MAT-731	Intro to Math	2	Total program credit hours		
		18			75.5
Third Semester					
HIT-280	CPT-4 Coding	3			
HIT-291	Reimbursement Methods	2.5			
HIT-551	HI Professional Practice Experience II	0.5			
HSC-217	Intro to Pathology	3			
		9			

Horse Science Technology

The Horse Science Technology program prepares students for a variety of positions in equine enterprises. More than 50 percent of instruction takes place in a laboratory setting using Kirkwood-owned horses or horses from outside the campus. Advanced students can train their own horses or horses sponsored for training.

The first year focuses on genetics, breeding, horsemanship, production management, and health and performance. The second year emphasizes training, nutrition, management and judging. An internship is required.

Career opportunities: grooms, assistant stable managers/trainers, sales associates in feed and tack stores, owners of boarding stables, breeding farms or horse dealerships.

Ag Sciences

Washington Hall
319-398-5609

www.kirkwood.edu/agrisciences

Entry time

Fall

Award

Associate of Applied Science degree
2 years (4 semesters)

Diploma option available

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
AGC-313	Leadership in Agriculture	1	AGE-120	Horse Evaluation	2
AGE-104	Total Fitness for Riders	1	AGE-231	Training II	3
AGE-168	Horse Breeds Selection	2	AGE-261	Legs, Hoof & Farrier Science	2
AGE-169	Horse Production Proficiency	3	AGE-290	Horse Projects	1
AGE-170	Health & Performance Management	3	-----	Humanities requirement	3
AGE-180	Ag Mechanics-Horse Science	3	-----	Merchandising requirement	3
-----	Math requirement	3	-----	Management requirement	3
-----	Horsemanship requirement	3			<hr/>
		19			17
Second Semester (Spring)			Fourth Semester (Spring)		
AGE-109	Horsemanship-Balanced Seat	1	AGB-470	Farm Records, Accounts, Analysis	3
AGE-185	Facilities Maintenance	2	AGC-932	Internship	4
AGE-203	Equine Genetics	2	AGE-130	Horse Nutrition	3
AGE-205	Breeding Management	2	AGE-232	Training III	2
AGE-230	Training I	1	AGE-290	Horse Projects	1
COM-723	Workplace Communications	3	MGT-145	Human Relations in Management	3
COM-744	Oral Communication in the Workplace	3			<hr/>
-----	Computer requirement	3			16
-----	Horsemanship requirement	3			
		<hr/>	Total program credit hours		72
		20			

HVAC Installer

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Diploma
 1 year

Certification

CFC Refrigerant Handling Certification
 HVAC Level 1 Apprenticeship Training Certificate
 Electrical Level 1 Apprenticeship Training Certificate

The HVAC Installer program prepares students to enter the skilled trade of heating, ventilation and air conditioning installation. The program focuses primarily on residential and light commercial equipment and covers installation procedures, code requirements, electrical applications and refrigerant handling procedures. The one-year, hands-on program also includes system design and HVAC component operation.

Career opportunities: installation positions, general maintenance jobs, sales and service positions.

Course Number	Course Title	Credit Hours
First Semester (Fall)		
CON-108	Construction Safety	1
HCR-410	Electrical Applications I	3
HCR-605	HVAC Installation I	4
HCR-710	Fundamentals of Plan & Print Reading	2
IND-112	CPR/First Aid	1
IND-119	Industry Orientation	1
MAT-716	Industrial Math II	3
-----	Communication elective	3
		18

Course Number	Course Title	Credit Hours
Second Semester (Spring)		
HCR-450	Electrical Applications for HVAC II	3
HCR-600	Pipe Joining Methods	3
HCR-610	HVAC Installation II	7
MGT-145	Human Relations in Management	3
		16
Total program credit hours		34

Industrial Maintenance and HVAC Technology

The first year of the Industrial Maintenance & HVAC Technology program provides extensive coverage of electricity and electro-mechanical devices such as motors, relays and transformers. Additional subjects include electrical wiring, basic electronics, motor controls, refrigeration, air conditioning, computer applications and industrial hydraulics.

Second-year students focus on commercial climate controls, advanced heating, air conditioning and refrigeration systems. Additional subjects include industrial electronic devices such as programmable logic controllers and industrial motor drives.

Career opportunities: industrial plant maintenance, process controls and instrumentation, air conditioning and refrigeration, electrical wiring, building automation systems and controls.

Industrial Technologies

Jones Hall
319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Year – First Semester			Summer Session – 12 weeks		
ELT-304	Intro to Electrical Circuits (weeks 1-6)	4	ELT-795	Fundamentals of Fluid Power	5
ELT-146	NEC & Electrical Wiring (weeks 7-16)	5	ELT-852	Air Conditioning and Refrigeration I	5
MAT-109	Industrial Maintenance Math Fundamentals	3			10
MAT-718	Industrial Maintenance Math Advanced	3	Second Year – First Semester		
-----	Communication elective	3	BCA-189	Microcomputer Literacy	1
		18	ELT-853	Air Conditioning and Refrigeration II	10
First Year – Second Semester			PHY-182	Applied Physics II	3
ELT-152	Industrial Maintenance I	4	-----	Humanities elective	3
ELT-211	Motor Control Circuits	4			17
ELT-224	Motors and Transformers	5	Second Year – Second Semester		
PHY-180	Applied Physics I	2	ELT-255	Programmable Logic Controllers	6
-----	Communication elective	3	ELT-726	Industrial Drives and Devices	3
		18	ELT-860	HVAC Systems and Controls	6
			MGT-145	Human Relations in Management	3
					18
			Total program credit hours		81

Interior Design

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

The Interior Design program provides education and training for people interested in a career in kitchen, residential or contract design. Graduates of this program are prepared for positions in designer sales, marketing and middle management.

This program features a combination of classroom instruction and on-the-job training in design establishments. Students study all facets of this challenging field including general education, business administration, technical courses in interior design skills and computer aided design (CAD).

Career opportunities: sales, interior designer, manufacturer's representative, furniture, window treatments, wall coverings, floor coverings, kitchen dealerships, residential retail sales, contract design, commercial furniture, dealerships.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
CSC-110	Intro to Computers	3	INT-107	Kitchen and Lighting Design	4
INT-300	Textiles for Interior Design	3	INT-108	CAD for Interior Designers I	3
INT-301	Design Fundamentals	3	INT-110	Interior Design I	4
INT-303	Historical Interiors I	3	SPC-101	Fundamentals of Oral Communication	3
MGT-145	Human Relations in Management	3	-----	Humanities elective	3
		15			17
Second Semester (Spring)			Forth Semester (Spring)		
ADM-133	Business Math and Calculators	3	INT-111	Interior Design II	4
BUS-290	Employment Search/Workplace Success	1	INT-113	Portfolio Assessment	1
COM-723	Workplace Communications or	3	INT-118	CAD for Interior Designers II	3
ENG-105	Composition I		INT-313	Contract Design	4
INT-302	Color Theory	3	INT-932	Internship	3
INT-304	Historical Interiors II	3			15
MKT-140	Principles of Selling	3			
		16	Total program credit hours		67
Summer					
INT-310	Architectural Graphics	4			
		4			

Iowa Paramedic Specialist

Paramedic specialists provide advanced care in a variety of settings. Utilizing critical thinking skills, paramedic specialists rapidly assess, treat and stabilize injured or ill patients and provide transport to or between hospitals. Settings may include ground and air ambulances, emergency departments, critical care units or cardiac cath labs. Along with advanced assessment techniques, paramedic specialists utilize medications, cardiac monitoring and interpreting, defibrillation and advanced invasive skills as guided by state and local protocols, as well as the medical direction of each service.

Career opportunities: ambulance services, fire departments, hospitals, law enforcement agencies, other health care facilities.

Health Science

223 Linn Hall

319-398-5566

www.kirkwood.edu/healthscience

Entry time

Spring

Award

Associate of Applied Science degree
2 years (5 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Prerequisites			Second Semester		
(Must be taken before acceptance into the program)			EMS-643	Cardiopulmonary Paramedicine	3
BIO-161	Basic Anatomy and Physiology	3	EMS-644	Paramedic Clinical I	3
EMS-233	EMT-Basic Theory	6.5	EMS-645	Paramedic I	2.5
EMS-235	EMT-B Practical Applications	0.5	ENG-105	Composition I	3
HSC-117	Basic Medical Terminology	2.5			<hr/> 11.5
HSC-210	Health Skills I	1	Third Semester		
HSC-211	Health Skills II	1	BCA-189	Microcomputer Literacy	1
MAT-731	Intro to Math	2	EMS-646	Paramedic Clinical II	4
		<hr/> 16.5	EMS-647	Paramedic II	3.5
First Semester			EMS-648	Special Patient Populations in EMS	4
BIO-181	Homeostatic Physiology	3	EMS-649	Trauma/Environmental Emergencies	4
EMS-640	EMS Operations	1			<hr/> 16.5
EMS-641	Intro to Paramedicine	2	Fourth Semester		
EMS-642	Pharmacology for Paramedicine	3	EMS-650	Medical/Psychological Emergencies	4
PSY-111	Intro to Psychology	3	EMS-651	Paramedic Fieldwork	4
SPC-101	Fundamentals of Oral Communication	3	EMS-652	Paramedic Clinical III	5
		<hr/> 15	-----	Humanities elective	3
					<hr/> 16
Total program credit hours					75.5

Landscape Maintenance

Ag Sciences

Horticulture/Floral Careers

319-398-5441

www.kirkwood.edu/agrisciences

Entry time

Summer or Fall

Award

Associate of Applied Science degree

2 years (4 semesters, 1 summer)

The Landscape Maintenance program includes elements from both the Golf Course and Athletic Turfgrass Management and Landscape, Nursery and Garden Center Management programs. As a Landscape Maintenance student you'll learn to install and manage trees, shrubs, annual and perennial plantings; install and repair irrigation systems; install and maintain turfgrass; develop solutions for disease, pest and weed control; and operate and maintain equipment. You'll also develop skills in landscape design and construction; computer literacy; and written and oral communication.

Career opportunities: manage the grounds of private homes or corporate campuses, employed by professional lawn care companies, work in the area of athletic field maintenance.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			Fall Term II		
AGH-110	Success in Horticulture	1	AGH-127	Ornamental Plant Materials	3
AGH-112	Intro to Turfgrass Management	3	AGH-152	Landscape Design Techniques	3
AGH-123	Woody Plant Materials	3	AGH-165	Irrigation Installation & Repair	2
AGH-144	Landscape Construction/Design	3	AGH-400	Athletic Field Maintenance	3
AGH-236	Plant Material Maintenance	3	COM-744	Oral Communication/Workplace	3
-----	Humanities Requirement	3	MGT-145	Human Relations in Management <i>or</i>	3
		16	BUS-161	Human Relations	
					17
Spring Term I			Spring Term II		
AGC-932	Internship	3	AGH-156	Landscape Design II	3
AGH-102	Horticulture Math	3	AGH-163	Irrigation Design	2
AGH-120	Herbaceous Plant Materials	3	AGH-211	Advanced Turfgrass Management	3
AGH-141	Equipment Operations	3	AGH-238	Soil and Water Conservation	3
AGH-253	Insects and Diseases	3	AGH-293	Landscape Business Operations	2
AGH-279	Botany for Horticulture	2	AGH-425	Grounds Maintenance	3
COM-723	Workplace Communications <i>or</i>	3			16
ENG-105	Compostion I				
		20			
			Total program credit hours		69

Landscape, Nursery and Garden Center Management

A beautiful lawn and healthy trees, shrubs and plants make a positive statement about a home or business. As a Landscape, Nursery and Garden Center Management student, you'll learn to care for trees, shrubs and plants; design, install and maintain landscapes; develop solutions for disease, pest and weed control; and operate and maintain equipment. You'll also develop skills in the use, care and identification of plants; landscape design and construction; computer literacy, and written and oral communication.

Career opportunities: landscape designers for private homes or corporate campuses, garden center or greenhouse managers or salespersons, commercial grounds foremen, nursery production.

Ag Sciences

Horticulture/Floral Careers
319-398-5441
www.kirkwood.edu/agrisciences

Entry time
Summer or Fall

Award
Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			Fall Term II		
AGH-110	Success in Horticulture	1	AGH-127	Ornamental Plant Materials	3
AGH-112	Intro to Turfgrass Management	3	AGH-158	Computer Apps/Landscape Ind	2
AGH-123	Woody Plant Materials	3	AGH-233	Plant Propagation I	3
AGH-144	Landscape Construction/Design	3	AGH-275	Commercial Plant Production	3
AGH-236	Plant Material Maintenance	3	COM-744	Oral Communication/Workplace	3
-----	Humanities Requirement	3	MGT-145	Human Relations in Management or	3
		16	BUS-161	Human Relations	
Spring Term I			Spring Term II		
AGC-932	Internship	3	AGH-120	Herbaceous Plant Materials	3
AGH-102	Horticulture Math	3	AGH-131	Greenhouse Management	3
AGH-141	Equipment Operations	3	AGH-156	Landscape Design II	3
AGH-152	Landscape Design Techniques	3	AGH-238	Soil and Water Conservation	3
AGH-279	Botany for Horticulture	2	AGH-253	Insects and Diseases	3
COM-723	Workplace Communications or	3	AGH-293	Landscape Business Operations	2
ENG-105	Composition I				
		17			17
Total program credit hours					67

Local Area Network (LAN) Management

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

Certificate options available.
 See advisor for information.

Graduates in this program develop, build, integrate and maintain local area networks. Theory and practical hands-on experience give students basic understanding of how computers are networked.

Career opportunities: network field technician, network administrator, network engineer, network marketing.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CSC-110	Intro to Computers	3	BUS-290	Employment Search & Workplace Success	1
MAT-102	Intermediate Algebra	4	MGT-145	Human Relations in Management	3
NET-122	Computer Hardware Basics	3	NET-184	Wide Area Network (WAN) Basics	2
NET-190	Critical Problem Solving	1	NET-232	Cisco Switches	3
NET-212	Cisco Networking	3	NET-400	Linux Networking	3
-----	Communication requirement	3	NET-561	Directory Administration	3
		17			15
Second Semester			Fourth Semester		
NET-137	Advanced PC Concepts	3	NET-191	Network Cabling	3
NET-174	LAN Administration	3	NET-323	Windows Network Management	3
NET-222	Cisco Routers	3	NET-571	Server Configuration	3
NET-321	Windows Networking	3	NET-600	Security Basics	3
NET-338	Directory Concepts	3	NET-680	TCP/IP for Networking	3
-----	Communication requirement	3	-----	Humanities elective	3
		18			18
Total program credit hours					68

Lodging Management

The goal of this program is to prepare students to work in entry-level positions of responsibility within the hospitality industry.

This industry has been expanding as part of the growing service economy, and there is a demand for individuals with a college education and work experience.

The Hotel at Kirkwood Center: Our upscale 71-room hotel, complete with elegant gourmet restaurant, will be operated almost entirely by our Lodging and Culinary Arts students. Once complete in the summer of 2010, this Center of Excellence will be the nation's only such facility at a two-year school, and our students will earn valuable real world experience right on campus.

Career opportunities: meeting/event planner, reservations supervisor, front desk shift manager, sales manager, banquet captain, concierge, housekeeping supervisor, convention/services manager, room service manager.

Business & Information Technology

217 Iowa Hall

319-398-5468

www.kirkwood.edu/businessdept

Entry time

Fall

Award

Associate of Applied Science degree

2 years (4 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
COM-723	Workplace Communications	3	BUS-932	Internship	3
CSC-110	Intro to Computers	3	HCM-213	Dining Management (Lec)	4
HCM-100	Sanitation and Safety	2	HCM-251	Purchasing/Cost Control (Lec)	3
HCM-324	College Orientation - Hospitality	1	HCM-322	Intro to Hospitality II	0.5
HCM-600	Intro to Lodging Operations	2	HCM-603	Intro to Hospitality Sales	2
MAT-700	Basic Math	3	MKT-180	Customer Service Strategies	1
MKT-140	Principles of Selling	3	SPC-101	Fundamentals of Oral Communications	3
		17			16.5
Second Semester			Fourth Semester		
ACC-111	Intro to Accounting	3	BUS-932	Internship	3
HCM-195	Dining Room Techniques (Lecture)	1	HCM-310	Hospitality Law	3
HCM-204	Dining Room Techniques (Lab)	4	HCM-323	Intro to Hospitality III	0.5
HCM-321	Intro to Hospitality I	0.5	HCM-340	Hospitality Events and Catering	4
HCM-330	Hospitality Personnel Management	3	MGT-145	Human Relations in Management	3
HCM-601	Intro to Rooms Operations	3	-----	Humanities elective	3
HCM-602	Intro to Food and Bar Operations	3			16.5
		17.5			
Total program credit hours					67.5

Management

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

Certificate options, such as Entrepreneurship and Human Resources, are available. See advisor for information.

The Management program provides an extensive selection of management courses. It is designed for someone who would like to develop management skills for career advancement.

This program offers many management and general electives from which to choose to provide students the opportunity to take courses that fit their specific needs. Certificate options are available for students who want to specialize in human resources or entrepreneurship.

Students can complete many of the Management degree courses online. Online courses are the same courses offered in a face-to-face classroom, adapted for distance delivery by Kirkwood faculty members. Faculty are available to answer questions, host discussion forums, respond to assignments and grade exams.

Career opportunities: front-line to middle-level management, advancement into supervisory capacity, small business owner.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BUS-102	Intro to Business	3	MGT-300	Intro to Entrepreneurship	3
CSC-110	Intro to Computers	3	MKT-110	Principles of Marketing	3
ENG-105	Composition I	3	-----	Management electives	3
MGT-130	Principles of Supervision	3	-----	Elective	3
MGT-145	Human Relations in Management	3	-----	Humanities elective	3
		15			15
Second Semester			Fourth Semester		
ACC-111	Intro to Accounting <i>or</i>	3	ECN-130	Principles of Microeconomics	3
ACC-500	Accounting for Entrepreneurs		-----	Management electives	10
ENG-108	Composition II: Technical Writing	3	-----	Elective	3
MAT-102	Intermediate Algebra	4			16
MGT-101	Principles of Management	3			
MGT-121	Project Management Basics	3			
		16			
			Total program credit hours		62

Marketing Management

Marketing and management are two of the most popular majors in colleges today, due to the vast employment opportunities available. Marketing Management is a hybrid program offering both marketing and management options. These fields need professionals with strong initiative and a spirit of competition. Successful students also exhibit strong entrepreneurial, problem-solving and interpersonal skills.

Through this program, students have the opportunity to earn one-year diplomas in Apparel Merchandising, Retail Marketing or Sales. Certificates are also available in Retail Marketing and Sales.

Career opportunities: buyer, manufacturer representative, e-commerce, store manager, small business owner, financial services, sales, wholesaler, marketing research, advertising, retailer, sports and entertainment, marketing.

Business & Information Technology

203 Nielsen Hall

319-398-5416

www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree

2 years (4 semesters)

Certificate and diploma options available.

See advisor for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BUS-192	Professionalism: DECA	1	ACC-152	Financial Accounting or	3/4
BUS-932	Internship	3	ACC-111	Intro to Accounting	1
-----	Communication requirement	3	BUS-290	Employment Search/Workplace Success	3
-----	Math elective	3	MGT-101	Principles of Management	3
-----	Marketing electives	6	MKT-168	Buying & Merchandising Strategies	3
		<u>16</u>	-----	Management elective	3
Second Semester			-----	Management or Computer elective	3
CSC-110	Intro to Computers	3			<u>16/17</u>
BUS-192	Professionalism: DECA	1	Fourth Semester		
MGT-145	Human Relations in Management	3	BUS-932	Internship	3
MKT-110	Principles of Marketing	3	ECN-120	Principles of Macroeconomics or	3
-----	Communication requirement	3	ECN-130	Principles of Microeconomics	3
-----	Marketing elective	3	MGT-130	Principles of Supervision	3
		<u>16</u>	MKT-180	Customer Service Strategies	1
			MKT-195	Marketing Management	3
			-----	Humanities elective	3
					<u>16</u>
			Total program credit hours		64/65

Masonry Construction

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Diploma
 9 months (2 semesters)

Certification

CPR, OSHA Safety & Scaffolding

The Masonry Construction curriculum prepares students to enter the trade of bricklaying. Students are given a hands-on intensive introduction to the skills used by bricklayers. Classroom experience takes place between an internship on a construction site at the beginning of the program and the masonry field experience at the end of the program.

Career opportunities: material supply firms, gateway to apprenticeship program, subcontractors, landscape firms, commercial, residential and industrial contractors and builders.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Second Semester (Spring)		
CON-108	Construction Safety	1	CON-116	Architectural Plans & Specifications	2
CON-932	Internship or Prelab Experience	3	CON-275	Stone Concepts	2
IND-112	CPR/First Aid	1	MAS-218	Masonry Tools & Equipment II	1
MAS-215	Masonry Tools & Equipment I	1	MAS-222	Masonry Lab II	9
MAS-217	Masonry Lab I	7	MAS-920	Field Experience	3
MAT-716	Industrial Math II	3			17
		16			
			Total program credit hours		33

Medical Assisting

In the clinical area, medical assistants (MAs) take patients to the examination room, ask about and record symptoms, and measure the patient's height, weight and blood pressure. MAs also prepare instruments for and assist with minor surgeries, assist the physician with patient exams, obtain EKGs, give injections and draw blood for routine lab work. MAs may also be employed in an administrative position responsible for greeting patients, answering phones, scheduling appointments, and managing medical records, insurance payments and patient accounts.

Career opportunities: physician's family practice or specialty offices, hospitals/clinics, public health clinics, laboratories, phlebotomist, unit secretary, patient service representative.

Health Science

223 Linn Hall

319-398-5566

www.kirkwood.edu/healthscience

Entry time

Fall, Spring or Summer

Award

Diploma

3 semesters

Associate of Applied Science degree upon completion of additional courses

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
ADM-105	Intro to Keyboarding	1	MAP-616	MA Externship	7
BCA-189	Microcomputer Literacy	1	PSY-111	Intro to Psychology	3
BIO-161	Basic Anatomy and Physiology	3	SPC-101	Fundamentals of Oral Communication	3
HSC-107	Professionals in Health	2			13
HSC-115	Medical Terminology	4			
HSC-210	Health Skills I	1			
MAP-123	Admin Medical Office Procedures	3			
		15			
			Total diploma credit hours		43
Second Semester			Associate of Applied Science Degree Courses		
HSC-135	First Aid	0.5	ENG-105	Composition 1	3
MAP-142	Medical Insurance and Legalities	3	-----	Humanities elective	3
MAP-210	Medical Lab	3.5	-----	Social Science elective	3
MAP-260	Basic Electrocardiography	1	-----	Electives	9
MAP-312	MA Clinical Procedures	3			18
MAP-501	Math for Medications	1			
MAP-513	MA Pharmacology	3			
		15	Total program credit hours		61

Medical Coding

Health Science

223 Linn Hall
 319-398-5566
www.kirkwood.edu/healthscience

Entry time

Fall

Award

Diploma
 1 year (3 semesters)

Medical coders transform medical diagnoses and procedures into numbers or codes for health care reimbursement. Medical coding is the universal language for the medical profession. These numerical medical codes provide accuracy and clarity for health care reimbursement, which is vital for the success and stability of the health care provider.

Medical Coding is the first year of the Health Information Technology program.

Career opportunities: hospitals, physicians' offices, home health agencies, insurance companies, long-term care facilities, correctional facilities, mental health agencies, computer software companies.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BIO-168	Human Anatomy and Physiology I	4	HIT-280	CPT-4 Coding	3
CSC-110	Intro to Computers	3	HIT-291	Reimbursement Methods	2.5
HIT-220	Intro to Medical Coding	2.5	HIT-551	HI Professional Practice Experience II	0.5
HIT-360	Intro to HIT	3	HSC-217	Intro to Pathology	3
HSC-107	Professionals in Health	2			9
HSC-115	Medical Terminology	4			
		18.5	Total program credit hours		45.5
Second Semester					
BCA-213	Intermediate Computer Business Apps	3			
BIO-173	Human Anatomy and Physiology II	4			
HIT-240	Advanced Coding/Classification	3			
HIT-495	Medical Office Management	2.5			
HIT-550	HI Professional Practice Experience I	2.5			
HSC-142	Elements of Pharmacology	1			
MAT-731	Intro to Math	2			
		18			

Medical Laboratory Technology

Kirkwood Community College is an academic affiliate with the Medical Laboratory Technology program at Hawkeye Community College. The Medical Laboratory Technology program prepares students with entry-level skills in clinical laboratory science. Students learn laboratory procedures such as using a number of instruments in the laboratory for sterilizing, analyzing and testing; keeping the laboratory clean and well-organized; using math to make solutions or to record test results; handling test slides and fragile equipment; using laboratory computer systems in some settings.

Career opportunities: hospital, clinic and physician office labs; blood collection and blood testing facilities; public health laboratories; veterinary offices; industrial laboratories.

Health Science
223 Linn Hall
319-398-5566

www.kirkwood.edu/healthscience

Entry time
Fall

Award
Associate of Applied Science degree
(from Hawkeye Community College)
3 years (6 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Fourth Semester (Fall) - courses at Hawkeye		
MLT-101	Intro to Lab Science (ICN)	3	MLT-230	Advanced Hematology	3
MAT-700	Basic Math or higher level college math course	3	MTL-260	Immuno-hematology	4
BIO-161	Basic Anatomy and Physiology	3	MLT-233	Hemostasis and Thrombosis	2
CHM-110	Intro to Chemistry	3	MLT-240	Clinical Chemistry	7
SPC-101	Fundamentals of Oral Communication	3	MLT-252	Parasitology	1
PSY-111	Intro to Psychology or	3	MLT-270	Immunology and Serology	2
SOC-110	Intro to Sociology	3			19
		18	Fifth Semester - courses at Hawkeye		
Second Semester (Spring)			(courses extend through spring and summer)		
HSC-117	Basic Medical Terminology	2.5	24 weeks of clinics with periodic lecture days. May be scheduled in local area.		
MLT-120	Urinalysis (ICN)	3	MLT-285	Chemistry	4
CHM-132	Intro to Organic & Biochemistry	4	MLT-287	Hematology	4
BIO-186	Microbiology	4	MLT-288	Microbiology	4
ENG-105	Composition I	3	MLT-283	Urinalysis	1
		16.5			13
Summer Term - 8 weeks, courses at Hawkeye			Total program credit hours		
MLT-110	Fundamentals of Lab Techniques	3			76.5
MLT-130	Hematology	3			
MLT-250	Clinical Microbiology	4			
		10			

Medical Transcription

Health Science

223 Linn Hall
 319-398-5566
 www.kirkwood.edu/healthscience

Entry time

Fall

Award

Diploma
 3 semesters

Increasing requirements for patient care documentation provide numerous opportunities for medical transcriptionists. Physicians and other health care providers use state-of-the-art electronic technology to dictate and transmit highly technical and confidential information for their patients. These medical professionals rely on skilled medical transcriptionists to transform the spoken word into comprehensive records that accurately communicate medical information.

Medical transcriptionists (MTs) are specialists in medical language and health care documentation. They interpret and transcribe dictation by physicians and other health care professionals regarding patient assessment, therapeutic procedures, clinical courses, diagnoses and prognoses.

Career opportunities: physician’s offices, laboratories, medical transcription businesses, rehabilitation centers, hospitals, legal offices, insurance companies, medical libraries.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BCA-136	Advanced Word Processing	3	HSC-217	Intro to Pathology	3
BCA-212	Intro to Computer Business Applications	3	MTR-150	Career Medical Transcription	6
HSC-115	Medical Terminology	4	MTR-180	Medical Transcription Professional Practice Experience	0.5
MTR-102	Professionalism in Medical Transcription	2			
MTR-112	Medical Transcription	2			
		14			9.5
Second Semester			Total program credit hours		
ADM-165	Information Processing	3			38
BIO-161	Basic Anatomy and Physiology	3			
COM-710	Basic Communications	3			
HIT-495	Medical Office Management	2.5			
HSC-142	Elements of Pharmacology	1			
HSC-107	Professionals in Health	2			
		14.5			

Nursing – LPN/RN

Nursing is the largest health care profession in the United States. The Bureau of Labor Statistics indicates that employment among nurses will grow faster than average for all occupations through 2014. Nurses provide direct patient care; observe, assess and record symptoms; give medication and treatments; and serve as health educators for patients, families and the community.

Career opportunities: hospitals, long-term care facilities, home health care, clinics, military, wellness centers.

Health Science

223 Linn Hall

319-398-5566

www.kirkwood.edu/healthscience

Entry time

Fall, Spring or Summer

(evening/weekend program begins in fall and spring and Practical Nurse-only program begins in spring)

Award

Associate of Applied Science degree
2 years (5 semesters) plus prerequisites

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Prerequisites (minimum of two semesters)			Third Semester		
BCA-189	Microcomputer Literacy	1	ADN-105	Intro to ADN	1
BIO-168	Human Anatomy and Physiology I	4	ADN-577	ADN I	3.5
BIO-173	Human Anatomy and Physiology II	4	ADN-723	ADN Clinical I	3
HSC-107	Professionals in Health	2			7.5
HSC-135	First Aid	0.5	Fourth Semester		
HSC-210	Health Skills I	1	ADN-653	ADN II	3
HSC-211	Health Skills II	1	ADN-724	ADN Clinical II	3
		13.5	BIO-186	Microbiology	4
			-----	Humanities elective	3
First Semester					13
PNN-104	Metrology	1	Fifth Semester		
PNN-138	Intro to Nursing	2	ADN-654	ADN III	4
PNN-139	Practical Nursing I	5	ADN-725	ADN Clinical III	4
PNN-722	Fundamentals of Nursing Clinical	2	ENG-105	Composition I	3
PSY-111	Intro to Psychology	3	SOC-110	Intro to Sociology	3
		13			14
Second Semester			Total Associate Degree Nurse credit hours		
PNN-533	Practical Nursing II	6			76
PNN-732	Practical Nursing Clinical II	3			
PSY-121	Developmental Psychology	3			
SPC-101	Fundamentals of Oral Communication	3			
		15			
Total Practical Nurse credit hours		41.5			

Occupational Therapy Assistant

Health Science

223 Linn Hall
 319-398-5566
www.kirkwood.edu/healthscience

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (5 semesters)

Occupational therapy assistants (OTAs) work with patients of all ages and help them learn skills to lead independent lives. OTAs work under the supervision of an occupational therapist (OT) to provide hands-on services to clients who are learning new ways to succeed in the occupation of life.

Career opportunities: school systems, assisted living facilities, hospitals, outpatient clinics, long-term care facilities, private practice.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Summer)		
BIO-161	Basic Anatomy and Physiology	3	OTA-308	Physical Dysfunction I	4
ENG-105	Composition I	3	OTA-309	Physical Dysfunction II	4
HSC-107	Professionals in Health	2	OTA-850	OTA Fieldwork I-A	1
OTA-100	Foundations of OT	4	SPC-101	Fundamentals of Oral Communication	3
OTA-207	OT Methods I	3			12
PSY-111	Intro to Psychology	3	Fourth Semester (Fall)		
		18	OTA-405	Psychosocial Dysfunction	4
Second Semester (Spring)			OTA-406	OT Methods III	3
BCA-189	Microcomputer Literacy	1	OTA-409	OTA Professional Development	2
MAT-731	Intro to Math	2	OTA-410	Pediatric Interventions	2
OTA-208	Occupational Development	3	OTA-411	Geriatric Interventions	1.5
OTA-209	Wellness and Prevention for the OTA	2	OTA-851	OTA Fieldwork I-B	2.5
OTA-211	Pathophysiology for OTA	4	-----	Humanities elective	3
OTA-212	Functional Kinesiology	3			18
OTA-306	OT Methods II	3	Fifth Semester (Spring)		
		18	OTA-852	OTA Fieldwork II-A	6.5
			OTA-854	OTA Fieldwork II-B	6.5
					13
			Total program credit hours		79

Office Assistant

This one-year program includes computer applications with emphasis on word processing skills. Office procedures, oral and written communication skills, and records management are additional program components. Upon successful completion of all courses, graduates earn a diploma. Graduates may pursue an associate of applied science degree by completing additional course work.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall, Spring or Summer

Career opportunities: receptionist, office assistant, office clerk.

Award
 Diploma
 1 year (3 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Second Semester		
ADM-133	Business Math & Calculators	3	ACC-111	Intro to Accounting	3
ADM-176	Electronic Records System	3	ADM-163	Office Concepts and Procedures	3
BCA-135	Intro to Word Processing <i>or</i>	3	ADM-165	Information Processing	3
ADM-105	Intro to Keyboarding <i>and</i>		BCA-136	Advanced Word Processing	3
ADM-122	Document Formatting		BCA-213	Intermediate Computer Business Apps	3
BCA-212	Intro to Computer Business Applications	3	BUS-190	Professionalism: BPA	1
BUS-190	Professionalism: BPA	1			<hr/> 16
COM-710	Basic Communications	3	Third Semester		
		<hr/> 16	ADM-154	Business Communication	3
			BCA-221	Integrated Computer Business Apps	3
			MGT-145	Human Relations in Management	3
					<hr/> 9
			Total program credit hours		41

Parks and Natural Resources

Ag Sciences

Horticulture/Floral Careers

319-398-5441

www.kirkwood.edu/agrisciences

Entry time

Summer or Fall

Award

Associate of Applied Science degree

2 years (4 semesters, 1 summer)

If you enjoy the outdoors and have a deep concern for preserving and managing our precious natural resources, take a look at our Parks and Natural Resources program. As a student in this program, you'll learn to maintain and build campgrounds and lake areas; identify and manage fish, amphibians, reptiles, mammals, and nesting and game birds; operate and maintain equipment; maintain turfgrass systems; control erosion; and maintain park facilities.

Career opportunities: working in a city or county park as a park attendant or naturalist; working in conservation, landscaping or environmental education; working for a county conservation district.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Fall Term I			Fall Term II		
AGH-102	Horticulture Math	3	AGH-152	Landscape Design Techniques	3
AGH-123	Woody Plant Materials	3	AGN-140	Plants of the Wild	3
AGN-132	Plant Management for Parks	3	AGN-220	Avian Wildlife	3
AGH-110	Success in Horticulture	1	AGN-223	Aquatic Wildlife	3
AGP-329	Introduction to GPS	3	AGN-244	Wildlife Management	3
COM-744	Oral Communication/Workplace	3	AGN-248	Natural Resources Appreciation	3
-----	Humanities Requirement	3			
		19			18
Spring Term I			Spring Term II		
AGC-313	Leadership in Agriculture-Wetlands	1	AGH-238	Soil and Water Conservation	3
AGC-932	Internship	3	AGN-226	Mammalian Wildlife	3
AGH-141	Equipment Operations	3	AGN-235	Park and Recreation Admin.	3
AGH-144	Landscape Construction/Design	3	AGN-240	Natural Resources Interpret.	3
AGH-279	Botany for Horticulture	2	MGT-145	Human Relations in Management or	3
AGN-250	Park Maintenance Programs	3	BUS-161	Human Relations	
COM-723	Workplace Communications or	3			15
	Composition I (ENG-105)				
		18		Total program credit hours	70

PC Technician

The PC (Personal Computer) Technician program is designed to teach students the fundamental skills and knowledge required to support personal computers in a networked and stand-alone environment.

PC technicians maintain, analyze, troubleshoot and repair computer systems, hardware and computer peripherals. As the trend toward networking computers accelerates, a growing number of computer operators are working on PCs and minicomputers in offices, factories and other work settings.

Career opportunities: microcomputer technician, help desk support.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall, Spring or Summer

Award
 Diploma
 1 year (3 semesters)

Associate of Applied Science degree after completion of additional required courses.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Second Semester		
COM-723	Workplace Communications	3	BCA-213	Intermediate Computer Business Apps	3
CSC-110	Intro to Computers	3	CIS-135	Microcomputer Operating Systems	3
NET-122	Computer Hardware Basics	3	NET-137	Advanced PC Concepts	3
NET-154	Networking Basics	3	NET-321	Windows Networking	3
NET-190	Critical Problem Solving	1	NET-850	Special Topics for PC Technicians	3
NET-785	Fundamentals of Desktop Support	3			15
		16	Third Semester		
			COM-744	Oral Communication in the Workplace	3
			MGT-145	Human Relations in Management	3
			NET-212	Cisco Networking	3
					9
			Total program credit hours		40

Pet Grooming/Pet Shop Management

Ag Sciences

Washington Hall
 319-398-5609
www.kirkwood.edu/agrisciences

Entry time

Summer or Fall

Award

Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

As a pet grooming student, you'll learn to groom and maintain the appearance of pets, usually dogs. Grooming includes brushing and cutting the pet's hair, trimming toenails, bathing the pet and cleaning its ears. After successfully completing the one-year program, you'll receive a diploma in Pet Grooming and Pet Shop Management.

Career opportunities: veterinary clinics, pet stores, pet salons, kennels.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Second Semester (Spring)		
AGB-251	Agribusiness Procedures	3	AGB-332	Ag Advertising/Merchandising	3
AGC-313	Leadership in Agriculture	1	AGC-115	Ag Career Orientation	1
AGV-152	Veterinary Computer Applications	2	AGC-313	Leadership in Agriculture	1
AGV-158	Veterinary Law & Ethics	3	AGV-105	Animal Behavior/Kennel Management	5
AGV-201	Pet Grooming I	1.5	AGV-143	Canine & Feline Nutrition	3
AGV-202	Pet Grooming II	1.5	AGV-203	Pet Grooming III	1.5
MGT-145	Human Relations in Management	3	AGV-204	Pet Grooming IV	1.5
		15	COM-723	Workplace Communications	3
					19
			Summer Term		
			AGC-932	Internship	3
					3
			Total program credit hours		
					37

Physical Therapist Assistant

Physical therapist assistants (PTAs) work closely with physical therapists (PTs) to provide services to people with physical disabilities. Patient treatments may include exercise, functional activities, gait training, massage, electrical stimulation, hot/cold packs, traction and ultrasound.

The PT performs an initial patient examination and identifies patient problems and goals, then outlines a plan of care. The PTA assists the PT by carrying out all or part of the plan of care, monitoring the patient's progress and documenting the care.

Career opportunities: hospitals, nursing homes, rehabilitation centers, outpatient clinics.

Health Science

223 Linn Hall

319-398-5566

www.kirkwood.edu/healthscience

Entry time

Fall

Award

Associate of Applied Science degree
2 years (5 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Prerequisites			Summer Term		
BIO-168	Human Anatomy and Physiology I	4	COM-222	Communication for Health Care Professionals	3
PTA-101	Intro to PTA	2	PTA-160	PTA Procedures I	3
		6	PTA-161	PTA Procedures II	3
Fall Semester			PTA-301	PTA Clinic I	2
BIO-173	Human Anatomy and Physiology II	4			11
HSC-107	Professionals in Health	2	Fall Semester		
HSC-210	Health Skills I	1	PTA-210	Orthopedics	3
PTA-120	Kinesiology	3	PTA-230	Rehab for Medical Conditions	3
PTA-140	Functional Motor Development	3	PTA-240	Neurology	3
PTA-192	PTA Modalities I	2	PTA-302	PTA Clinic II	2
		15	-----	Humanities elective	3
Spring Semester					14
ENG-105	Composition I	3	Spring Semester		
HSC-135	First Aid	0.5	PTA-250	PTA Career Essentials	2
PSY-111	Intro to Psychology	3	PTA-431	PTA Clinic III	12
PTA-110	Fundamentals for PTA	3			14
PTA-150	Pathophysiology	3	Total program credit hours		
PTA-193	PTA Modalities II	3			75.5
		15.5			

Plumbing Technology

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Diploma
 1 year (2 semesters)

The Plumbing Technology program provides entry-level skills and knowledge for students preparing to enter the plumbing industry. Classes in the first semester focus on safety, hand and power tools, materials, pipe joining methods, code book layout, plan and print reading and trade calculations. Hands-on classes concentrate on pipe joining, pipe materials and basic pipe fitting practices.

The second semester covers plumbing code requirements, installation requirements for drain, waste and vent systems, water pipe systems, gas pipe systems, gas venting systems, cross connection and backflow prevention. The hands-on class includes design and construction of a three-fixture washroom group and testing and troubleshooting backflow prevention devices.

Career opportunities: plumbing installation technician, plumbing maintenance technician, plumbing service technician, plumbing apprenticeship program.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Second Semester (Spring)		
CON-108	Construction Safety	1	MAT-738	Plumbing Math Concepts	1
HCR-710	Fundamentals of Plan and Print Reading	2	PLU-132	Plumbing Theory I	8
IND-112	CPR/First Aid	1	PLU-142	Plumbing Practices II	4
MAT-716	Industrial Math II	3	PLU-150	Advanced Plan & Print Reading	2
PLU-130	Plumbing Theory I	6	-----	Communication elective	3
PLU-140	Plumbing Practices I	4			18
		17			
			Total program credit hours		35

Precision Sheet Metal Fabrication

Today's metal fabricators need advanced CNC programming training for specialized precision metal fabrication machinery and to understand the requirements for short production runs to meet just-in-time delivery and custom manufacturing demands. Those entering the field must be flexible and have knowledge of basic machine tools, materials processes and computer numerical control of machine functions.

Career opportunities: production machine operator, CNC programmer, job shop fabricator, quality control inspector, flexible manufacturing specialist, trainer/teacher, and the machine tool aspects of metal fabrication.

Industrial Technologies

Jones Hall
319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Diploma option available.
See advisor for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Summer Term		
IND-114	General Industry Safety	1	MFG-140	Geometric Dimensioning & Tolerancing	1
MAT-755	Fabrication Math I	2	MFG-197	Material Properties (Metallurgy)	3
MFG-135	Fabrication Printreading I	2	-----	Humanities or History/Cultures elective	3
MFG-175	Fabrication Welding (sheet metal)	5			7
MFG-318	Intro to Fabrication Practices	5			
		15	Third Semester (Fall)		
			CAD-105	CAD I	2
Second Semester (Spring)			CAD-106	CAD II	3
IND-155	Microcomputer Applications	2	MFG-391	Int Automated Fabrication Practices	7
MAT-756	Fabrication Math II	2	-----	Communication elective	3
MFG-136	Fabrication Printreading II	2			15
MFG-390	Intro to Automated Fabrication Practices	7	Fourth Semester (Spring)		
-----	Communication elective	3	MFG-317	Automated Production Methods	5
		16	MFG-392	Adv Automated Fabrication Practices	7
			-----	Social Science elective	3
					15
			Total program credit hours		68

Respiratory Therapist

Health Science

223 Linn Hall
 319-398-5566
www.kirkwood.edu/healthscience

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (5 semesters)

Respiratory therapists (RTs) help people with breathing disorders, including chronic lung disease such as asthma, emphysema or cystic fibrosis; heart attack or accident victims; or premature infants. RTs perform a variety of patient assessments at the bedside, as well as detailed diagnostic breathing tests in the laboratory. The essence of respiratory care involves treatments and procedures to help people breathe easier, maintain open airways or clear obstructed airways, provide oxygen therapy, ventilator support and emergency care. RTs also teach patients proper breathing techniques and the proper use of breathing devices.

Career opportunities: hospitals, sales and training, hospital outreach programs, pharmaceutical sales, home health agencies.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Summer)		
BIO-161	Basic Anatomy and Physiology	3	RCP-370	Respiratory Pathology I	2
HSC-107	Professionals in Health	2	RCP-420	Pulmonary Function Testing	2
HSC-210	Health Skills I	1	RCP-510	Respiratory Care II	6
MAT-732	Intro to Math	3			10
RCP-120	Cardiopulmonary Assessment	1	Fourth Semester (Fall)		
RCP-210	Intro to Respiratory Care	2.5	PSY-111	Intro to Psychology	3
SPC-101	Fundamentals of Oral Communications	3	RCP-380	Respiratory Pathology II	2.5
		15.5	RCP-470	Cardiac Monitoring	1.5
Second Semester (Spring)			RCP-610	Perinatology	2.5
BIO-186	Microbiology	4	RCP-735	RC Clinic II	6.5
CHM-110	Intro to Chemistry	3	RCP-850	Respiratory Care III	2.5
RCP-220	Respiratory Care I	3			18.5
RCP-300	Respiratory Physiology	4	Fifth Semester (Spring)		
RCP-730	RC Clinic I	2.5	ENG-105	Composition I	3
		16.5	RCP-480	Advanced Cardiac Care	2.5
			RCP-740	RC Clinic III	6.5
			RCP-890	RC Applications	2
			-----	Humanities elective	3
					17
			Total program credit hours		77

Restaurant Management

Students in Kirkwood's food service programs prepare for their careers through practical experience in management, food preparation and service, and field trips to various types of service establishments. International education opportunities are also available.

In addition to management and food service techniques, instruction covers related technical subjects including nutrition, purchasing, sanitation, computers, human relations and legal aspects of the hospitality industry. This major prepares students for entry-level management positions.

When completed in the summer of 2010, the Hotel at Kirkwood Center will be operated almost entirely by our Lodging, Culinary Arts and Restaurant Management students. This upscale hotel and gourmet restaurant will be the nation's only such facility at a two-year school.

Career opportunities: restaurants, casinos, hospitals, cruise ships, catering, country clubs, hotels & resorts, colleges, long-term care facilities, corporate dining centers.

Business & Information Technology

217 Iowa Hall

319-398-5468

www.kirkwood.edu/businessdept

Entry time

Fall or Spring

Award

Associate of Applied Science degree
2 years (4 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CSC-110	Intro to Computers	3	BUS-102	Intro to Business <i>or</i>	3
HCM-100	Sanitation and Safety	2	MGT-300	Intro to Entrepreneurship	
HCM-147	Food Production (Lab)	4	COM-723	Workplace Communications	3
HCM-148	Food Fundamentals (Lecture)	3	HCM-213	Dining Management (Lecture)	4
HCM-324	College Orientation - Hospitality	1	HCM-322	Intro to Hospitality II	0.5
MAT-700	Basic Math	3	MGT-145	Human Relations in Management	3
		16	MKT-180	Customer Service Strategies	1
Second Semester			SPC-101	Fundamentals of Oral Communication	3
ACC-111	Intro to Accounting	3			17.5
HCM-195	Dining Room Techniques (Lecture)	1	Fourth Semester		
HCM-204	Dining Room Techniques (Lab)	4	BUS-290	Employment Search/Workplace Success	1
HCM-233	Menu Planning and Nutrition	3	HCM-310	Hospitality Law	3
HCM-251	Purchasing & Cost Control (Lecture)	3	HCM-315	Intro to Wines and Spirits	2
HCM-321	Intro to Hospitality I	0.5	HCM-323	Intro to Hospitality III	0.5
HCM-330	Hospitality Personnel Management	3	HCM-340	Hospitality Events & Catering	4
		17.5	HCM-403	Food and Culture	3
			MKT-110	Principles of Marketing <i>or</i>	3
			MKT-150	Principles of Advertising	
					16.5
			Total program credit hours		67.5

Skilled Trades

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree

The Skilled Trades degree allows students who complete USDOL-BAT-approved* apprenticeship training programs to convert the apprenticeship training into college credits. This program is designed for those who do not have college degrees and are interested in pursuing further opportunities in supervisory and management positions.

Students who complete four- or five-year BAT-approved programs can automatically articulate their training course work. For four- and five-year apprenticeship programs, students can receive 30 credit hours toward the 64-credit-hour degree. If students have completed the OJT (On-the-Job Training) associated with the apprenticeship training, then another 16 credit hours of internship can be waived. This leaves only 18 credit hours of general education core courses needed to earn an associate of applied science degree.

Career opportunities: advancement opportunities in supervisory and management-level positions.

Course Number	Course Title	Credit Hours
CSC-110	Intro to Computers	3
ENG-101	Elements of Writing	3
ENG-105	Composition I	3
HUM-116	Encounters in Humanities	3
MAT-115	Mathematics and Society	3
PSY-111	Intro to Psychology	3

Surgical Technology

Surgical technologists (STs) are integral members of the surgical team, which includes surgeons, anesthesiologists and registered nurses. The ST may function in the second circulator, scrubbed member or first assistant (with further education and experience) role on the operating room team.

Most STs work in hospital operating rooms passing instruments, ensuring equipment functions properly and operative procedures are conducted under conditions that maximize safety.

Career opportunities: hospital operating rooms, sales representative, ambulatory surgery centers, teaching, hospital labor and delivery, hospital central supply, advancement to management positions possible with experience and education.

Health Science

223 Linn Hall
319-398-5566

www.kirkwood.edu/healthscience

Entry time

Spring start (Cedar Rapids site)
Fall start (Distance Education program available at Hawkeye Community College, Indian Hills Community College, Northeast Iowa Community College, Southeastern Community College)

Award

Diploma
1 year (3 semesters)

Associate of Applied Science degree after completion of additional required courses.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
BIO-161	Basic Anatomy and Physiology	3	SUR-340	Surgical Specialties	4
BIO-182	Basic Microbiology	1.5	SUR-421	Surgical Technology Pharmacology	1
HSC-107	Professionals in Health	2	SUR-523	Surgical Technology Practicum II	11
HSC-117	Basic Medical Terminology	2.5			16
HSC-135	First Aid	0.5			
HSC-210	Health Skills I	1	Total diploma credit hours		47
HSC-211	Health Skills II	1			
SUR-126	Surgical Technology I	6.5			
		18	Associate of Applied Science degree courses		
Second Semester			BIO-181	Homeostatic Physiology	3
MAT-731	Intro to Math	2	ENG-105	Composition I	3
SPC-101	Fundamentals of Oral Communication	3	MGT-101	Principles of Management	3
SUR-225	Surgical Technology II	4	PSY-111	Intro to Psychology	3
SUR-440	Biomedical Sciences for the Surgical Tech	2	-----	Humanities elective	3
SUR-520	Surgical Technology Practicum I	2	-----	Electives	5
		13			20
			Total program credit hours		67

Telecommunication Technology

Industrial Technologies

Jones Hall
 319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall

Award

Associate of Applied Science degree
 2 years (4 semesters, 1 summer)

The Telecommunication Technology program gives students the education and skills necessary to succeed in the high-tech world of telecommunications. During the first year, students receive a fundamental introduction to the basics of electrical circuits and system design and maintenance. During the second year, students concentrate on fiber optics, telephony and other subjects critical to the understanding of telecommunication systems.

Students complete a paid internship at a telecommunications firm between their first and second years, which allows them to experience the job market firsthand. One of the highlights of this program is the state-of-the-art telecommunications lab located on campus. Students can transfer credits from this program to the University of Northern Iowa and work toward a Bachelor of Arts in technology management.

Career opportunities: fiber optics installation and repair, field technician, voice and data network management, service center technician, sales and service, field installer.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
ELT-402	Intro to Communication Systems	3	CSC-110	Intro to Computers	3
ELT-427	Telephony Circuits I	3	ELT-408	Structured Cabling System	3
MAT-745	Technical Math I	4	ELT-428	Telephony Circuits II	3
NET-154	Networking Basics	3	ELT-460	Fiber Optics	3
-----	Communication elective	3	-----	Humanities elective	3
		16			15
Second Semester (Spring)			Fourth Semester (Spring)		
ELT-304	Intro to Electrical Circuits	4	ELT-400	Local Loop	3
ELT-395	Advanced Electrical Circuits	5	ELT-443	Multiplexing	3
ELT-500	LAN Design and Protocols	3	ELT-455	Transmission Circuits I	3
ELT-506	Router Basics	3	MGT-145	Human Relations in Management	3
		15	-----	Communication elective	3
Summer Term					15
ELT-880	Telecommunications Internship	3	Total program credit hours		
		3			64

Veterinary Assistant

As a Veterinary Assistant student, you'll prepare for a career working with animals in a variety of settings such as veterinary clinics, animal control agencies, boarding kennels and grooming salons. You'll study animal diseases and disease prevention, small animal pharmacology, pet grooming, kennel management, animal behavior, nutrition, legal principles, human relations, communication and computer science.

Career opportunities: veterinary assistants, veterinary receptionists, animal control officers, animal health product sales, retail pet supply sales.

Ag Sciences
 Washington Hall
 319-398-5609
www.kirkwood.edu/agrisciences

Entry time
 Fall

Award
 Diploma
 1 year (2 semesters, 1 summer)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Second Semester (Spring)		
AGC-313	Leadership in Agriculture	1	AGC-115	Ag Career Orientation	1
AGV-105	Animal Behavior/Kennel Management	5	AGC-313	Leadership in Agriculture	1
AGV-152	Veterinary Computer Applications	2	AGV-101	Veterinary Assisting	3
AGV-153	Veterinary Reception/Administration Skills	3	AGV-107	Pharmacy Skills	3
AGV-158	Veterinary Law and Ethics	3	AGV-120	Veterinary Medical Terminology	1
MGT-145	Human Relations in Management	3	AGV-143	Canine and Feline Nutrition	3
		17	AGV-201	Pet Grooming I	1.5
			COM-723	Workplace Communications	3
					16.5
			Summer Term		
			AGC-932	Internship (coordinator approval)	3
					3
			Total program credit hours		
					36.5

Veterinary Technician

Ag Sciences

Washington Hall
319-398-5609
www.kirkwood.edu/agrisciences

Entry time

Summer

Award

Associate of Applied Science degree
2 years (4 semesters, 2 summers)

This program is accredited by the AVMA (American Veterinary Medical Association) Committee on Veterinary Technician Education and Activities (CVTEA). For more information, go to www.avma.org.

Veterinary technicians provide professional technical support to veterinarians, biomedical researchers and other scientists. They also care for hospitalized patients; assist the doctor in surgery; perform physical exams, lab work and technical procedures (blood draws, IV placement); take health histories and X-rays; give and monitor anesthesia; provide client education; and perform reception duties.

At Kirkwood, veterinary technician students work with a variety of animals including dogs, cats, horses, cows, pigs, birds, snakes, guinea pigs, hamsters and rats. A strong background in biological sciences is needed for this program.

Career opportunities: small, mixed or large animal practices; humane societies; animal shelters; zoos; specialty veterinary practices; pet shops; biological research labs; animal control agencies; veterinary teaching hospitals; state and federal agencies.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
Summer Term			Summer Term		
AGC-115	Ag Career Orientation	1	AGC-932	Internship	4
AGV-126	Animal Anatomy & Physiology I	3			4
ENG-105	Composition I	3	Fall Term II		
-----	Computer requirement	3	AGC-210	Employment Seminar-Ag	1
		10	AGV-144	Fundamentals of Small Animal Nutrition	3
Fall Term I			AGV-162	Animal Nursing II	3
AGC-313	Leadership in Agriculture	1	AGV-168	Vet Clinic Pathology II	3
AGV-105	Animal Behavior/Kennel Management	5	AGV-175	Small Animal and Cage Bird Medicine	4
AGV-120	Veterinary Medical Terminology	1	BIO-186	Microbiology	4
AGV-127	Animal Anatomy & Physiology II	4			18
AGV-142	Math for Vet Tech	3	Spring Term II		
-----	Chemistry requirement	4	AGV-163	Animal Nursing III	3
		18	AGV-169	Vet Clinic Pathology III	3
Spring Term I			AGV-171	Large Animal and Poultry Medicine	4
AGV-140	Veterinary Pharmacology	3	AGV-179	Laboratory Animal Medicine	1
AGV-146	Large Animal Care	3	-----	Humanities	3
AGV-161	Animal Nursing I	3			14
AGV-167	Vet Clinic Pathology I	3	Total program credit hours		
ENG-106	Composition II <i>or</i>	3			82
SPC-101	Fundamentals of Oral Communication				
MGT-145	Human Relations in Management	3			
		18			

Water Environmental Technology

This innovative program provides students with real-world experience with either a one-year or two-year program for preparation in the water and wastewater fields. The two-year degree includes technical study in water/wastewater procedures, complemented by math, science, social science, humanities classes and an internship. The Water Environmental Technology program comes to you via Environmental Technology Online (www.et-online.org). The classes were developed by the Hazardous Materials Training and Research Institute. Students may transfer credits from this program to the University of Northern Iowa toward a bachelor's degree in technology management.

Career opportunities: municipal water utilities, municipal wastewater treatment plants, rural water systems, industrial waste treatment facilities, engineering firms, privately owned water/wastewater plants.

Industrial Technologies

Jones Hall
319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall, Spring or mid-semester

Award

Associate of Applied Science degree
2 years (4 semesters, 1 summer)

Diploma option available.
See advisor for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
MAT-102	Intermediate Algebra	4	CSC-110	Intro to Computers	3
WAT-300	Water Analysis	3	MGT-130	Principles of Supervision	3
WAT-304	Water Treatment I	4	WAT-301	Basic Mechanical Maintenance and Pumps	3
WAT-305	Water Distribution Systems	4	WAT-312	Water Treatment II	4
		15	WAT-400	Permits and Administration	1
Second Semester (Spring)			-----	Communication elective (Composition I or II)	3
CHM-110	Intro to Chemistry	3			17
WAT-306	Wastewater Collection Systems	4	Fourth Semester (Spring)		
WAT-307	Wastewater Treatment I	4	WAT-210	Wastewater Treatment: Industrial	4
WAT-308	Wastewater Analysis	3	WAT-311	Wastewater Treatment II	4
-----	Communication elective (Elements of Writing or Composition I)	3	-----	Humanities or History/Cultures elective	3
		17	-----	Science elective	3
Summer Term			-----	Social Science elective	3
WAT-932	Internship	3			17
		3	Total program credit hours		
					69

Web Technologies – Application Developer

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

Students learn the fundamentals of designing Web pages, including basic programming and developing creative Web pages.

Students in the Web Application Developer program take additional courses in Internet programming, Java, and database and SQL.

Web Technologies students round out their program with a semester-long internship or capstone project.

Career opportunities: digital developer, Web editor, eBusiness Web designer, Web graphics designer, information technology designer, Web marketing specialist, interactive marketer, Web site content manager, multimedia/Web specialist, Web software developer, Web application developer, Web systems manager.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CIS-126	Intro to Programming Logic w/Language	4	BCA-290	Web Design Principles	3
CIS-207	Fundamentals of Web Programming	3	BCA-292	Media Tools for the Web	3
COM-710	Basic Communications	3	BCA-302	Audio/Video for the Web	3
CSC-110	Intro to Computers	3	CIS-176	Java II	4
MAT-102	Intermediate Algebra	4	CIS-192	Internet Programming II	4
		17			17
Second Semester			Fourth Semester		
BCA-304	Emerging Technology Trends	1	ADM-154	Business Communication	3
CIS-172	Java	4	BUS-151	Intro to E-Commerce	3
CIS-190	Internet Programming I	4	BUS-932	Internship or Capstone	3
CIS-333	Database and SQL	4	CIS-180	J2EE Servlets and JSP	4
MGT-145	Human Relations in Management	3	-----	Humanities elective	3
		16			16
Total program credit hours					66

Web Technologies – Graphic Designer

Students learn the fundamentals of designing Web pages, including basic programming and developing creative Web pages.

Students in the Web Graphic Designer program take additional courses in Adobe Photoshop, digital photography, Adobe Illustrator and marketing.

Web Technologies students round out their program with a semester-long internship or capstone project.

Career opportunities: digital developer, Web editor, eBusiness Web designer, Web graphics designer, information technology designer, Web marketing specialist, interactive marketer, Web site content manager, multimedia/Web specialist, Web software developer, Web application developer, Web systems manager.

Business & Information Technology

203 Nielsen Hall

319-398-5416

www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
2 years (4 semesters)

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CIS-128	Programming Concepts	3	BCA-290	Web Design Principles	3
CSC-110	Intro to Computers	3	BCA-292	Media Tools for the Web	3
CIS-207	Fundamentals of Web Programming	3	BCA-302	Audio/Video for the Web	3
COM-710	Basic Communications	3	GRA-140	Digital Imaging	3
MAT-102	Intermediate Algebra	4	MKT-110	Principles of Marketing	3
		16	-----	Humanities elective	3
					18
Second Semester			Fourth Semester		
ART-186	Digital Photography	3	ADM-154	Business Communication	3
BCA-304	Emerging Technology Trends	1	BUS-151	Intro to E-Commerce	3
BCA-767	Adobe Acrobat	2	BUS-932	Internship or Capstone	3
CIS-190	Internet Programming I	4	GRA-127	Illustrator I	3
CIS-307	Intro to Databases	3	GRA-141	Digital Imaging II	3
MGT-145	Human Relations in Management	3			
		16			15
			Total program credit hours		65

Web Technologies – Marketing Specialist

Business & Information Technology

203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time

Fall, Spring or Summer

Award

Associate of Applied Science degree
 2 years (4 semesters)

Students learn the fundamentals of designing Web pages, including basic programming and developing creative Web pages.

Students in the Web Marketing Specialist program take additional courses in marketing, advertising, customer service, retailing, selling and Web analytics.

Web Technologies students round out their program with a semester-long internship or capstone project.

Career opportunities: digital developer, Web editor, eBusiness Web designer, Web graphics designer, information technology designer, Web marketing specialist, interactive marketer, Web site content manager, multimedia/Web specialist, Web software developer, Web application developer, Web systems manager.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CIS-207	Fundamentals of Web Programming	3	BCA-290	Web Design Principles	3
CSC-110	Intro to Computers	3	BCA-292	Media Tools for the Web	3
ENG-105	Composition I	3	BCA-302	Audio/Video for the Web	3
MAT-102	Intermediate Algebra	4	MMS-240	Promotions and Public Relations	3
MKT-110	Principles of Marketing	3	-----	Humanities elective	3
MKT-180	Customer Service Strategies	1			<u>15</u>
		17	Fourth Semester		
Second Semester			BCA-300	Web Analytics	3
BCA-304	Emerging Technology Trends	1	BUS-151	Intro to E-Commerce	3
BCA-767	Adobe Acrobat	2	BUS-290	Employment Search & Workplace Success	1
CIS-307	Intro to Databases	3	BUS-932	Internship or Capstone	3
ENG-106	Composition II	3	MGT-145	Human Relations in Management	3
MAT-155	Statistical Ideas	3	MKT-150	Principles of Advertising	3
MKT-140	Principles of Selling	3			<u>16</u>
		<u>15</u>	Total program credit hours		
					63

Students in the welding program can choose a certificate or an associate of applied science degree. The associate degree program includes Shielded Metal Arc Welding, Gas Metal Arc Welding and Gas Tungsten Arc Welding. Also available are Pipe Welding and Quality Assurance Training. Graduates of this program can transfer to the University of Northern Iowa to pursue a Technology Management Bachelor of Arts degree.

Career opportunities: trade unions such as Ironworkers, Plumbers and Pipefitters, and Boilermakers; production welder; welding fabrication; weld shop owner; maintenance welder; welding inspection; welding instructor; welding equipment sales.

Industrial Technologies

Jones Hall
319-398-4983
www.kirkwood.edu/industrialtech

Entry time

Fall or Spring
(daytime and evening classes available)

Award

Associate of Applied Science degree
2 years (4 semesters)

Certificates
1 semester (each)

Certification

Welder qualification to American Welding Society codes is available in several welding processes.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
MAT-764	Welding Math I	2	CSC-110	Intro to Computers	3
WEL-105	Welding Principles	2	WEL-113	Welding Blueprint Reading/Pipe	1
WEL-110	Welding Blueprint Reading	2	WEL-185	Advanced Gas Metal Arc Welding	3
WEL-156	Welding Skills I	4	WEL-192	Gas Tungsten Arc Welding	4
WEL-157	Welding Skills II	4	WEL-302	Pipe Welding/SMAW	2
-----	Communication elective	3			13
		17	Fourth Semester (Spring)		
Second Semester (Spring)			-----	Humanities elective	3
MAT-765	Welding Math II	3	-----	Social Science elective	3
WEL-128	Brazing/Soldering	2	-----	Welding electives	12
WEL-130	Oxyacetylene Welding	2			18
WEL-184	Gas Metal Arc Welding	3	Total program credit hours		
WEL-208	Intro to Fabrication	2			63
-----	Communication elective	3			
		15			

Certificates Available

Shielded Metal Arc Weld Certificate	16
Quality Assurance Certificate	8
Combination Welding Certificate	16
Pipe Weld Certificate	23

Career Transfer Programs

Business Administration
Communications Media/Public Relations
Computer Information Systems
Criminal Justice - Corrections
Criminal Justice - Law Enforcement
Disabilities Services Careers
Early Childhood Education
Education Careers
Fire Science Management
Human Services
Liberal Arts
 Agriculture
 Art
 Biology
 Biotechnology
 BSN (Nursing)
 Business
 Chemistry
 Chiropractic
 Computer Science
 Dentistry
 Economics
 Engineering
 Environmental Science
 History
 Mathematics
 Medicine
 Music
 Pharmacy
 Philosophy
 Physical Education
 Physical Therapy
 Physics
 Political Science
 Psychology
 Religious Studies
 Sociology
 Theatre
 Veterinary Medicine
Paralegal
Sign Language Interpreter Training

Business Administration

The Business Administration Associate of Science degree program prepares students for careers in many diverse areas of business. The degree is based on a strong foundation of business and general education courses. Students may choose from numerous elective courses to prepare for careers in accounting, banking/finance and marketing.

Upon completion of the program, students may choose to enter the workforce or transfer to four year colleges or universities.

Many courses in the program are available online or on KTS (Kirkwood Telecommunication System) at Kirkwood's Center locations. Students should work with their advisor to develop an plan that best meets their educational goals.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall, Spring or Summer

Award
 Associate of Science/Career Option degree
 2 years (4 semesters)

Career Transfer Programs

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
BUS-102	Intro to Business	3	ACC-152	Financial Accounting	4
CSC-110	Intro to Computers	3	ECN-120	Principles of Macroeconomics	3
ENG-105	Composition I	3	SPC-101	Fundamentals of Oral Communication	3
MAT-140	Finite Math	3	-----	Business electives	6
-----	Humanities or History/Cultures	3			<hr/>
		15			16
Second Semester (Spring)			Fourth Semester (Spring)		
ENG-106	Composition II	3	ACC-156	Managerial Accounting	4
ECN-130	Principles of Microeconomics	3	BUS-294	Business Administration Capstone	1
MAT-162	Business Statistics <i>or</i> Science	3	-----	Humanities/History Cultures core	3
-----	Business electives	6	-----	Business electives	9
		<hr/>			<hr/>
		15			17
			Total program credit hours		63

Communications Media/Public Relations

Social Sciences/Career Options

1048 Cedar Hall
319-398-1241
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree
2 years (4 semesters)

Associate of Science/Career Option degree is also available. See program coordinator for information.

The Communications Media/Public Relations program provides students with a broad base to enter the communications industry. The program covers journalism, media arts, news reporting and broadcasting, photojournalism, and media sales.

The curriculum combines a strong arts and sciences core along with specific professional courses to serve students who want to pursue four-year degrees or those who plan to seek employment following graduation. This program provides advising to guide students in choosing courses that will meet the requirements of specific transfer institutions.

Career opportunities: advertising, broadcast journalists, broadcast/sound engineering technicians, camera operators/editors, copywriters/editors, technical writers, digital communication, graphic designers, multimedia artists, news analysts/correspondents, radio announcers, photographers, program directors, publishing, public relations specialists, sales.

The Communications Media/Public Relations program has 10 emphasis areas in which students can focus their studies:

- Media Account Executive
- Media Artist
- Media Buyer
- Media Writer
- Photo Journalist (Photo Communicator)
- Print Communications
- Public Relations
- Radio Announcer/Operator
- Radio/TV News Reporter
- TV Production Assistant

Course Number	Course Title	Credit Hours
Communications Media/Public Relations		
	Arts and Sciences core requirements	49
	Plus:	
MMS-101	Mass Media	3
MMS-131	News Reporting	3
MMS-240	Promotions and Public Relations	3
MMS-948	Special Projects	1
MMS-920	Communications Media/PR Field Experience	3
Total program credit hours		62

Computer Information Systems

Students who are creative with computer technology and want to work in the business world should consider a career in Computer Information Systems. Computers and other information technologies are the technical foundations, or tools, of information systems. Students learn to design, write, test and document computer programs in languages such as Java, C++ and Visual Basic. Net. The associate of science/career option degree prepares students to transfer to a four-year school and pursue a degree in Management Information Systems.

Career opportunities: computer programmer, business systems analyst, Web designer, operations systems analyst, client/server application developer, internet programmer.

Business & Information Technology
 203 Nielsen Hall
 319-398-5416
www.kirkwood.edu/businessdept

Entry time
 Fall, Spring or Summer

Award
 Associate of Science/Career Option degree
 2 years (4 semesters)
 Associate of Applied Science degree
 is also available. See page 38.

Career Transfer Programs

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
ACC-152	Financial Accounting	4	ACC-156	Managerial Accounting	4
CIS-126	Intro to Programming Logic with Language	4	CIS-176	Java II	4
CSC-110	Intro to Computers	3	ECN-130	Principles of Microeconomics	3
ENG-105	Composition I	3	MAT-157	Statistics	4
-----	Math requirement	3			15
		17			
Second Semester			Fourth Semester		
CIS-153	Data Structures	4	CIS-609	Visual Basic.Net	4
CIS-172	Java	4	ECN-120	Principles of Macroeconomics	3
CIS-333	Database and SQL	4	MGT-101	Principles of Management	3
ENG-106	Composition II	3	SPC-101	Fundamentals of Oral Communication	3
-----	Humanities or History/Cultures	3	-----	Humanities or History/Cultures	3
		18			16
			Total program credit hours		66

Criminal Justice Corrections

Social Sciences/Career Options

1048 Cedar Hall
319-398-1241
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree
2-1/2 years (5 semesters)

Associate of Science/Career Option degree is also available. See program coordinator for information.

Criminal Justice is designed with a set of core courses and two major areas of emphasis: Corrections and Law Enforcement. Students will select one area of emphasis upon entering the program.

Career opportunities: federal, state or local police agencies; federal, state, local and private correctional facilities; private security/investigation; federal, state or local court services.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CRJ-100	Intro to Criminal Justice	3	CRJ-200	Criminology	3
ENG-105	Composition I	3	CRJ-220	Community-Based Corrections	3
SOC-110	Intro to Sociology	3	-----	Humanities – Arts & Ideas core	3
SPC-101	Fundamentals of Oral Communication	3	-----	History/Cultures core	3
-----	Humanities or History/Cultures core	3	-----	Corrections elective	3
		15			15
Second Semester			Fourth Semester		
CRJ-101	Ethics in Criminal Justice	3	CRJ-136	Correctional Law	3
CRJ-120	Intro to Corrections	3	CRJ-202	Cultural Awareness for CJ Practitioners	3
ENG-106	Composition II	3	-----	Humanities – Literature	3
-----	Mathematics (MAT-115 or higher)	3	-----	Open elective course	3
-----	Science core	3	-----	Science core	3
		15			15
			Fifth Semester or Summer Session		
			-----	Humanities (Group 1, 2, or 3)	3
			-----	Open elective core	2
					5
			Total program credit hours		
			65		

Criminal Justice Law Enforcement

Criminal Justice is designed with a set of core courses and two major areas of emphasis: Law Enforcement and Corrections. Students will select one area of emphasis upon entering the program.

Career opportunities: federal, state or local police agencies; federal, state, local and private correctional facilities; private security/investigation; federal, state or local court services.

Social Sciences/Career Options

1048 Cedar Hall

319-398-1241

www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree

2-1/2 years (5 semesters)

Associate of Science/Career Option degree is also available. See program coordinator for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester			Third Semester		
CRJ-100	Intro to Criminal Justice	3	CRJ-111	Police and Society	3
ENG-105	Composition I	3	CRJ-200	Criminology	3
SOC-110	Intro to Sociology	3	-----	Humanities – Arts & Ideas core	3
SPC-101	Fundamentals of Oral Communication	3	-----	History/Cultures core	3
-----	History/Cultures core	3	-----	Law Enforcement elective	3
		15			15
Second Semester			Fourth Semester		
CRJ-101	Ethics in Criminal Justice	3	CRJ-133	Constitutional Criminal Procedure	3
CRJ-130	Criminal Law	3	CRJ-202	Cultural Awareness for CJ Practitioners	3
ENG-106	Composition II	3	CRJ-212	Community-Oriented Policing	3
-----	Mathematics (MAT-115 or higher)	3	-----	Humanities – Literature	3
-----	Science core	3	-----	Science core	3
		15			15
			Fifth Semester or Summer Session		
			-----	Humanities (Group 1, 2, or 3)	3
			-----	Open elective course	2
					5
			Total program credit hours		
			65		

Disabilities Services Careers

Social Sciences/Career Options

1013 Cedar Hall
319-398-4822
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree
2 years (5 semesters)

Associate of Science/Career Option degree, Diploma and Paraeducator Certification are also available. See program coordinator for information.

The Disabilities Services Careers program prepares students for employment in a variety of school or community agencies that serve people with disabilities. The student has the option to enter employment as a paraeducator upon completion of the associate degree or pursue a four-year degree in one of the related fields of study. This program provides advising to guide students in choosing courses that will meet the requirements of specific transfer institutions. Basic computer literacy is required. Contact the program coordinator for specific requirements.

Career opportunities: counselor, group home worker, job coach, nursing home worker, paraeducator, social worker, special education teacher.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
BCA-189	Microcomputer Literacy (or evidence of computer literacy)	1	DSV-120	Observation & Management of Behavior	3
DSV-100	Intro to Disabilities Services	3	HSV-282	Health & Psychosocial Rehab	3
ENG-105	Composition I	3	-----	History/Cultures core	3
PSY-111	Intro to Psychology	3	-----	Humanities – Literature	3
-----	Math core	3	-----	Science core	3
		<hr/>			<hr/>
		13			15
Second Semester (Spring)			Fourth Semester (Spring)		
DSV-130	Instruction/Adaptation Strategies	3	DSV-200	Exceptional Persons	3
ENG-106	Composition II	3	DSV-290	Disabilities Services Careers Field Exp	3
PSY-121	Developmental Psychology	3	-----	Humanities core	3
SPC-101	Fundamentals of Oral Communication	3	-----	History/Cultures core	3
-----	Humanities – Arts & Ideas	3	-----	Science core	3
		<hr/>			<hr/>
		15			15
			Fifth Semester (Summer)		
			DSV-290	Disabilities Services Careers Field Exp	3
			-----	Elective	3
					<hr/>
					6
			Total program credit hours		64

Early Childhood Education

The Early Childhood Education program provides several options for students interested in the care and education of young children. One of the unique characteristics of this program is the use of the Kirkwood Kids Child Care Center, located on main campus. The center has specific instructional areas designed to serve as a laboratory for this program.

After completing the associate degree, students can enter the workforce or transfer to a four-year school. Kirkwood's Early Childhood Education program articulates to four-year institutions statewide, and we provide advising to help students choose courses that meet transfer institutions' requirements.

Career opportunities: lead teachers, assistant teachers, early childhood program directors and child care providers in a variety of early childhood programs including child care centers, child development homes, preschools and Head Start programs.

Social Sciences/Career Options

1013 Cedar Hall
319-398-4822
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree
2 years (5 semesters)

Associate of Science/Career Option degree, Diploma and Paraeducator Certification are also available.

See program coordinator for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
ECE-103	Intro to Early Childhood Education	3	ECE-133	Child Health, Safety and Nutrition	3
ECE-158	Early Childhood Curriculum I	3	PSY-121	Developmental Psychology	3
ECE-170	Child Growth & Development	3	-----	History/Cultures core	3
ENG-105	Composition I	3	-----	Humanities – Arts & Ideas	3
-----	Math	3	-----	Science core	3
		<u>15</u>			<u>15</u>
Second Semester (Spring)			Fourth Semester (Spring)		
ECE-159	Early Childhood Curriculum II or	3	ECE-221	Infant/Toddler Care & Education	3
ECE-243	Early Childhood Guidance	3	ECE-243	Early Childhood Guidance or	3
ENG-106	Composition II	3	ECE-159	Early Childhood Curriculum II	3
PSY-111	Intro to Psychology	3	ECE-262	Early Childhood Field Experience	3
SPC-101	Fundamentals of Oral Communication	3	-----	History/Cultures core	3
-----	Humanities core	3	-----	Science core	3
		<u>15</u>			<u>15</u>
			Fifth Semester (Summer)		
			-----	Humanities - Literature	3
			-----	Social Science core	3
					<u>6</u>
			Total program credit hours		66

Education Careers

Social Sciences/Career Options

1013 Cedar Hall
319-398-4822
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree
2 years (4 semesters)

Education Careers is a pre-professional program that provides the first two years of a teaching degree. The curriculum combines a strong arts and sciences background with professional courses.

Kirkwood provides advising to help students choose courses that meet transfer institutions' requirements. The program also provides specific training, general education and experience working with children or youth in educational settings.

Career opportunities: elementary, middle school or high school teacher, special education teacher.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
EDU-110	Exploring Teaching	3	-----	Humanities – Literature	3
ENG-105	Composition I	3	-----	History/Cultures core	3
PSY-111	Intro to Psychology	3	-----	Science core	3/4
SDV-109	College 101	3	-----	Education/Social Science core	3
-----	Elective	3/4	-----	Education elective	3
		<u>15/16</u>			<u>15/16</u>
Second Semester (Spring)			Second Semester (Spring)		
ENG-106	Composition II	3	EDU-920	Field Experience or	2/3
PSY-121	Developmental Psychology	3	EDU-805	Literacy Tutor Experience	
SPC-101	Fundamentals of Oral Communication	3	-----	Education elective	3
-----	Humanities – Arts & Ideas	3	-----	Humanities core	3
-----	Math core	3/4	-----	History/Cultures core	3
		<u>15/16</u>	-----	Science core	3/4
					<u>15/16</u>
			Total program credit hours		62

Fire Science Management

The Fire Science Associate of Science/Career Option (A.S./C.O.) curriculum provides technical, leadership and management skills necessary for officer development and promotion through a statewide associate transfer degree. Some students seek the certificate or degree to enhance their opportunities for entry-level positions. The program also benefits volunteers who may be seeking to upgrade their skill level for specific applications. In addition, students who want to transfer to four-year colleges or universities typically pursue this degree.

Career opportunities: lieutenant, captain or trainer, administrative district chief, public relations/education officer, private safety manager in industry, transfer to four-year college or university.

Industrial Technologies

Jones Hall
319-398-4983
www.kirkwood.edu/industrialtech

Entry time
Fall or Spring

Award
Associate of Science/Career Option degree
2 years (4 semesters)

Career Transfer Programs

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
ACC-152	Financial Accounting	4	ECN-120	Principles of Macroeconomics	3
CSC-110	Intro to Computers	3	MAT-140	Finite Math	3
ENG-105	Composition I	3	SPC-101	Fundamentals of Oral Communication	3
PSY-111	Intro to Psychology	3	-----	Fire Science Technical Courses	6
-----	Fire Science Technical Course	3			15
		16			
Second Semester (Spring)			Fourth Semester (Spring)		
ACC-156	Managerial Accounting	4	CHM-110	Intro to Chemistry	3
ENG-108	Composition II: Technical Writing	3	CHM-111	Intro to Chemistry Lab	1
MGT-101	Principles of Management	3	ECN-130	Principles of Microeconomics	3
PHI-105	Intro to Ethics	3	-----	Fire Science Technical Courses	6
-----	Fire Science Technical Course	3	-----	Humanities or History/Cultures elective	3
		16			16
			Total program credit hours		63

Human Services

Social Sciences/Career Options

1013 Cedar Hall
319-398-4822
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree
2 years (5 semesters)

Associate of Science/Career Option degree is also available. See program coordinator for information.

The Human Services program is designed with a strong focus on human behaviors, social policy, social programs, communication, record keeping, interviewing, observing, group processes and problem solving. An important aspect of the program is student involvement with community agencies which include observations and hands-on experience.

The program prepares students who want to become social workers or psychologists. These students will transfer to four-year colleges or universities. Our advisors help students select courses to meet the requirements of the schools they plan to attend.

Career opportunities: adolescent residential centers, advocacy groups, centers for drug and alcohol abuse, community action programs, community education and prevention programs, community mental health centers, correctional centers, crisis centers, facilities for people with mental illness, nursing homes, programs for seniors.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
BCA-189	Microcomputer Literacy (or evidence of computer literacy)	1	HSV-120	Observation Skills	3
ENG-105	Composition I	3	HSV-131	Basic Problem Solving Skills	3
HSV-101	Human Services Career Orientation	3	HSV-282	Health and Psychosocial Rehabilitation	3
PSY-111	Intro to Psychology	3	-----	Humanities core	3
-----	Math	3	-----	Science core	3
		<hr/>			<hr/>
		13			15
Second Semester (Spring)			Fourth Semester (Spring)		
ENG-106	Composition II	3	SOC-110	Intro to Sociology <i>or</i>	3
HVS-110	Human Service Policy & Programs	3	SOC-115	Social Problems	3
PSY-121	Developmental Psychology	3	-----	Humanities - Literature	3
SPC-101	Fundamentals of Oral Communication	3	-----	History/Cultures core	6
-----	Humanities - Arts & Ideas	3	-----	Science core	3
		<hr/>			<hr/>
		15			15
			Fifth Semester (Summer)		
			HSV-800	Human Services Field Experience and Seminar	6
					<hr/>
					6
			Total program credit hours		64

Liberal Arts

If you plan to continue your education after Kirkwood, you can take the necessary electives and core courses you need through our Liberal Arts program before you transfer.

The programs of study listed below are Liberal Arts transfer options. Depending upon your transfer institution and your career interest area, you may earn an Associate of Arts or an Associate of Science degree in Liberal Arts, or you may take only the credits you need to transfer.

Advising and Transfer Center
108 Iowa Hall
319-398-5540
www.kirkwood.edu/advising

Entry time
Fall, Spring or Summer

Award
Associate of Arts degree
Associate of Science degree
2 years (4-5 semesters)

Liberal Arts - Associate of Arts (A.A.) degree

Areas of career interest to choose from:

- Agriculture**
- Art**
- Business**
- Computer Science**
- Economics**
- History**
- Music**
- Philosophy**
- Physical Education**
- Political Science**
- Psychology**
- Religious Studies**
- Sociology**
- Theatre**

Liberal Arts - Associate of Science (A.S.) degree

Areas of career interest to choose from:

- Biology**
- Biotechnology**
- BSN (Nursing)**
- Chemistry**
- Chiropractic**
- Dentistry**
- Engineering**
- Environmental Science**
- Mathematics**
- Medicine**
- Pharmacy**
- Physical Therapy**
- Physics**
- Veterinary Medicine**



Paralegal

Social Sciences/Career Options

1048 Cedar Hall
319-398-1241
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

Associate of Arts degree
2 years (4 semesters)

Associate of Science/Career Option degree is also available. See program coordinator for information.

Paralegals are legal professionals who assist lawyers. A lawyer may delegate any legal work to a paralegal, except tasks that involve giving legal advice or representing a client in court (although paralegals may assist at trial). Iowa prohibits the practice of law by non-lawyers.

Kirkwood's American Bar Association-approved program prepares students for entry-level positions, or provides career-enhancing credentials for those already employed in law-related work. Program graduates who went to law school said their paralegal education at Kirkwood was an excellent pre-law experience. Even students wanting to only explore law careers will find the program's courses useful.

The program coordinator shall have discretion to evaluate and approve the transfer of all legal specialty courses. A maximum transfer of eight credits of legal specialty course work is allowed. Paralegal Internship (PRL-932) must be taken through Kirkwood.

Career opportunities: banks, insurance companies, government offices, title companies.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
ENG-105	Composition I	3	PRL-111	Advanced Legal Research & Writing	2
PRL-101	Paralegal Studies Orientation	3	PRL-130	Torts	2
SPC-101	Fundamentals of Oral Communication	3	PRL-175	Contracts	2
-----	Humanities core	3	-----	History/Cultures Core	3
-----	Social Science core	3	-----	Humanities Literature	3
		15	-----	Science core	3
Second Semester (Spring)					15
ENG-106	Composition II	3	Fourth Semester (Spring)		
PRL-105	Legal Ethics	1	PRL-176	Civil Litigation	3
PRL-110	Fundamentals of Legal Research & Writing	2	PRL-932	Internship	3
-----	Paralegal elective	2	-----	Paralegal elective	4
-----	Math core	3	-----	History/Cultures core	3
-----	Humanities Arts & Ideas	3	-----	Science core	3
-----	Social Science core	3			16
		17	Total program credit hours		
					63

Sign Language Interpreter Training

The Sign Language Interpreter Training program prepares students to communicate with and interpret for persons who are deaf or hard of hearing. The program develops an awareness of the social, physiological and legal aspects of deafness, in addition to sign language interpreter skills. Graduates of the program will be prepared for immediate entry-level employment in schools, vocational centers and human service agencies.

All of the courses offered in the curriculum are transfer-level. Kirkwood provides advising to help students choose courses that meet transfer institutions' requirements. Graduates of the program, therefore, have the option of pursuing advanced degrees in education, special education, speech therapy, audiology or counseling with the deaf or hard of hearing.

Career opportunities: interpret for deaf/hard of hearing, teacher of deaf or hard-of-hearing students, social worker for the deaf, vocational rehabilitation counselor, American Sign Language for foreign language credit.

Social Sciences/Career Options

1048 Cedar Hall
319-398-1241
www.kirkwood.edu/socialsciences

Entry time

Fall, Spring or Summer

Award

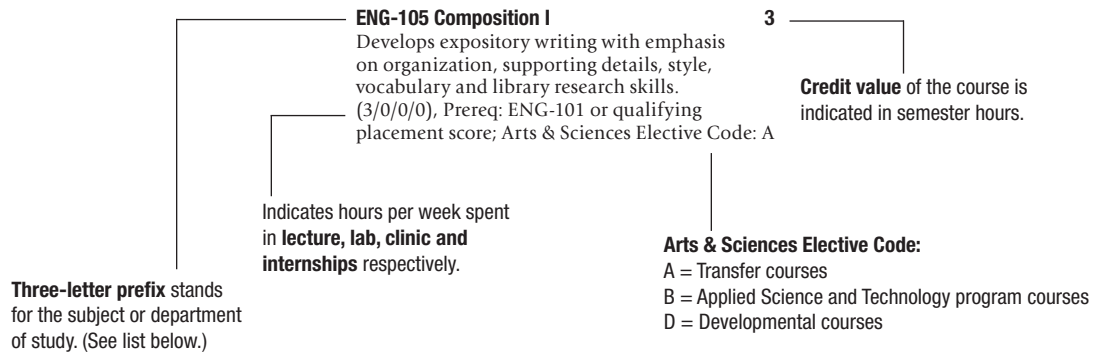
Associate of Arts degree
2 years (5 semesters, 2 summers)

Associate of Science/Career Option degree is also available. See program coordinator for information.

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
First Semester (Fall)			Third Semester (Fall)		
ALS-141	American Sign Language I	4	ASL-271	American Sign Language IV	3
ITP-120	Intro to Interpreting	3	ENG-106	Composition II	3
ITP-130	Social Aspects of Deaf Culture	3	ITP-221	Interpreting I	4
		10	SPC-101	Fundamentals of Oral Communication	3
Second Semester (Spring)			-----	Math core	3
ASL-171	American Sign Language II	4			16
ENG-105	Composition I	3	Fourth Semester (Spring)		
ITP-101	Independent Skills Lab I	2	ITP-122	Interpreting II	3
ITP-150	Process Analysis	4	ITP-954	Practicum and Seminar	6
PSY-111	Intro to Psychology	3	-----	Social Science core	3
		16			12
Summer Term			Second Summer Term		
ASL-241	American Sign Language III	3	-----	Science core	3
ITP-102	Independent Skills Lab II	2	-----	Humanities core	3
ITP-161	Sign Systems in Education Setting	3			6
ITP-251	Professional Issues	2	Fifth Semester		
ITP-252	Special Settings	2	-----	Science core	3
		12	-----	Social Science core	3
			-----	Humanities – Art & Ideas	3
			-----	Humanities – Literature	3
					12
Total program credit hours					84

Course Descriptions

How to Read Course Numbers



Course descriptions are listed according to the following prefixes:

ACC	Accounting	DLT	Dental Lab Technology	MAS	Masonry
ADM	Administrative Assistant	DRA	Film and Theatre	MAT	Mathematics
ADN	Associate Degree Nursing	DRF	Drafting	MFG	Manufacturing
AGA	Ag - Agronomy	DSL	Diesel	MGT	Management
AGB	Ag - Farm Management	DSV	Disability Services	MIL	Military
AGC	Ag - Comprehensive	ECE	Early Childhood Education	MKT	Marketing
AGE	Ag - Equine	ECN	Economics	MMS	Mass Media Studies
AGF	Ag - Floral	EDU	Education	MTR	Medical Transcription
AGH	Ag - Horticulture	EGR	Engineering	MUA	Music - Applied
AGM	Ag - Mechanics	EGT	Engineering Technology	MUS	Music - General
AGN	Ag - Natural Resources/Forestry	ELT	Electronics	NET	Computer Networking
AGP	Ag - Precision Ag	EMS	Emergency Medical Services	OTA	Occupational Therapy Assistant
AGS	Ag - Animal Science	END	Electroneurodiagnostic	PEA	Physical Education Activity
AGT	Ag - Technology	ENG	English Composition	PEC	Coaching Officiating
AGV	Ag - Vet Tech	ENV	Environmental Science	PEH	General Physical Ed. & Health
ANT	Anthropology	ESI	Intensive English Second Lang.	PEV	Intercollegiate Physical Ed.
APP	Apparel Merchandising	EXS	Exercise Science	PHI	Philosophy
ARC	Architectural	FIN	Finance	PHR	Pharmacy Tech
ART	Art	FIR	Fire Science	PHS	Physical Science
ASL	American Sign Language	FLF	Foreign Language-French	PHY	Physics
AUT	Automotive Technology	FLG	Foreign Language-German	PLU	Plumbing
BCA	Business Computer Applications	FLS	Foreign Language-Spanish	PNN	Practical Nursing
BIO	Biology	GEO	Geography	POL	Political Science
BUS	Business	GIS	Geographic Information Systems	PRL	Paralegal
CAD	Computer Aided Drafting	GRA	Graphic Communications	PSY	Psychology
CHM	Chemistry	HCM	Hospitality, Culinary, Management	PTA	Physical Therapist Assistant
CIS	Computer Information Systems	HCR	Heating & Air Conditioning	RCP	Respiratory Therapist
CLS	Cultural Studies	HIS	History	RDG	Reading
COM	Communication	HIT	Health Information Technology	REL	Religion
CON	Construction	HSC	Health Sciences	SCI	Science
CRJ	Criminal Justice	HSV	Human Services	SDV	Student Development
CRR	Collision Repair/Refinishing	HUM	Humanities	SOC	Sociology
CSC	Computer Science	IND	Industrial Technology	SPC	Speech
DAN	Dance	INT	Interior Design	SUR	Surgical Technology
DEA	Dental Assistant	ITP	Interpreting	WAT	Water Environmental Tech
DEN	Dental	LIT	Literature	WEL	Welding
DHY	Dental Hygiene	MAP	Medical Assistant		

Course Descriptions

ACC: ACCOUNTING

ACC-111 Introduction to Accounting 3

Provides an understanding of basic accounting concepts and procedures. Includes the recording of transactions, preparation of financial statements, and payroll problems for professional and merchandising businesses. (3/0/0/0), Arts & Sciences Elective Code: B

ACC-152 Financial Accounting 4

Introduces the basic concepts and procedures of accounting including the accounting cycle, merchandise accounting, internal control, long-term and contingent liabilities, corporate accounting and the collection of data for external reporting. Includes the preparation and analysis of financial statements. (4/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A; Comments: MAT-102 may also be taken as a corequisite

ACC-156 Managerial Accounting 4

Surveys the basic concepts and procedures of accounting to include managerial, manufacturing and cost accounting for decision making. (4/0/0/0), Prereq: ACC-152, MAT-140; Arts & Sciences Elective Code: A; Comments: MAT-140 may also be taken as a corequisite

ACC-160 Payroll Accounting 2

Introduces concepts and procedures used in determining payroll taxes. Laws and regulations affecting payroll are presented. Taxes and current rates are reviewed so the student will understand withholding from the employee and the employer's taxes. Manual and computerized practical problems are solved by the student (2/0/0/0), Prereq: ACC-152; Arts & Sciences Elective Code: B

ACC-191 Financial Analysis 3

Provides basic techniques for analyzing the flow of a business' funds and methods for selecting and interpreting financial ratios. (3/0/0/0), Prereq: ACC-152; Arts & Sciences Elective Code: A

ACC-200 Professionalism: Accounting Club 1

Develops and recognizes leadership and teamwork through a student-focused professional organization. Emphasizes leadership development and professional networking activities. Students participate in state and local conferences, perform community service and seek career skills. This course may be repeated for credit. (1/0/0/0), Arts & Sciences Elective Code: B

ACC-222 Cost Accounting 4

Relates the principles and methods of analyzing accounting data for planning and control, product costing and decision making. Emphasis on job orders, process and standard cost accounting systems, budgeting and cost-volume-profit analysis. (4/0/0/0), Prereq: ACC-156, MAT-140; Arts & Sciences Elective Code: A

ACC-231 Intermediate Accounting I 4

Includes a review of accounting procedures and the reporting process. Provides an in-depth analysis of the asset and liability sections of the balance sheet. (4/0/0/0), Prereq: ACC-156, MAT-140; Arts & Sciences Elective Code: A

ACC-232 Intermediate Accounting II 4

Emphasizes corporate accounting, incomplete records, price level accounting, the funds statement, pension accounting, leases and financial statement analysis, (4/0/0/0), Prereq: ACC-231; Arts & Sciences Elective Code: A

ACC-265 Income Tax Accounting 4

Introduces the federal income tax law, its purpose and development and its significance for tax planning. Emphasis is placed on individual and business tax law with an introduction to corporations. (4/0/0/0), Prereq: ACC-152, ACC-156; Arts & Sciences Elective Code: A

ACC-311 Computer Accounting 3

Enhances student learning by comparing the manual accounting cycle system with a professional accounting software. The course is project-based with an emphasis on accounting cycles and the management of accounting data. Students use a commercial accounting package with payroll and spreadsheet applications. (2/2/0/0), Prereq: ACC-152, CSC-110; Arts & Sciences Elective Code: B

ACC-362 Accounting Spreadsheets 4

Addresses the use of spreadsheet software as a problem-solving tool for the accountant. This tool is used to develop models that can be used to analyze data, create what-if scenarios, and automate computations, sort and group data, and view data graphically. The topics include, but are not limited to, planning, building, testing and documenting worksheets. Special topics include, but are not limited to, functions, charts, solver, data management, multiple worksheets, data tables, integration with other applications and macros. (4/0/0/0), Prereq: ACC-156, CSC-110; Arts & Sciences Elective Code: B

ACC-491 Accounting Capstone 3

Brings together and develops further the various accounting concepts introduced in earlier course work. Demonstrates how the various components of an accounting system work together. This course is project-based with emphasis on evaluation and analysis of accounting reports. (3/0/0/0), Prereq: ACC-160, ACC-222, ACC-231, ACC-311, ACC-362; Coreq: ACC-232, ACC-265; Arts & Sciences Elective Code: B

ACC-500 Accounting for Entrepreneurs 3

Provides the financial tools necessary for successful entrepreneurs. Focuses on basic accounting principles, project start-up costs, budgets and cash flow projections. Includes financial statements, ratios and funding for starting a business. QuickBooks is used to prepare budgets and financial statement, (3/0/0/0), Arts & Sciences Elective Code: A

ACC-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

ACC-928 Independent Study 1-3

Provides readings, training and basic research under the guidance of a faculty member. Frequently includes an extensive community service component. (0/2-6/0/0), Arts & Sciences Elective Code: B; Comments: Permission of sponsoring faculty member

ACC-949 Special Topics 1-3

Offers a learning experience using readings, case studies, group projects and basic research. Instruction related to current relevant topics in the accounting and business environment. (0/2-6/0/0), Prereq: ACC-152; Arts & Sciences Elective Code: B

ADM: ADMINISTRATIVE ASSISTANT

ADM-105 Introduction to Keyboarding 1

Provides instruction in alphabetic and numeric keyboarding and includes exercises designed to increase speed to 30 words per minute with five or fewer errors on five-minute timed writings. Includes instruction in the use of proofreaders' marks and how to create a business letter in block format using Microsoft Word. (0/2/0/0), Arts & Sciences Elective Code: A

ADM-122 Document Formatting 2

Presumes students already know the alphabetic and numeric keyboard. Instruction includes exercises designed to increase speed to 45 words per minute with five or fewer errors on five-minute timed writings. Includes instruction in creating standard business letters, interoffice memos, tables, simple reports and newsletters using Microsoft Word. (1/2/0/0), Prereq: ADM-105; Arts & Sciences Elective Code: A

ADM-133 Business Math and Calculators 3

Provides for the integration of business math concepts and formulas and electronic calculator operation. Emphasis is on 10-key touch, and applying business mathematics using the calculator. (3/0/0/0), Arts & Sciences Elective Code: A

ADM-142 Desktop Publishing 3

Allows students to create professional-quality documents, such as one-page bulletins or short newsletters, using desktop publishing software. The student will also integrate text, graphic and image files previously created with a variety of application software. (2/2/0/0), Prereq: ADM-122 or BCA-135; Arts & Sciences Elective Code: B

ADM-154 Business Communication 3

Develops skills and knowledge needed for effective oral and written communication in business. Students demonstrate these skills through presentations, written correspondence and the development of an electronic employment portfolio. It is recommended that students take this course in their last semester. (3/0/0/0), Prereq: COM-710 or ENG-105, BCA-212 or CSC-110; Arts & Sciences Elective Code: B

ADM-163 Office Concepts and Procedures 3

Provides for an understanding of the concepts, terminology, skills and procedures needed for employment in an office. This course covers such topics as telephone and teleconference techniques, travel arrangements, meetings, mail and shipping services, ethics and professionalism, office supplies and other basic office information. (3/0/0/0), Coreq: BCA-136, BCA-212, COM-710; Arts & Sciences Elective Code: B

ADM-164 Administrative Office Applications 3

Integrates the skills, knowledge and personal qualities necessary for an administrative assistant to perform the operational and supervisory functions for today's computerized office. Provides simulated office activities in a team environment using integrated software, problem-solving techniques and decision-making experiences with special emphasis on creativity, computer applications and professionalism. (3/0/0/0), Prereq: ADM-163, BCA-136, BCA-212; Coreq: ADM-142, BCA-213; Arts & Sciences Elective Code: A; Comments: This is a capstone course that utilizes software to complete a simulation. Teaching of the software is not done in this course.

ADM-165 Information Processing 3

Develops and applies oral, written and listening

communication skills using a variety of tools in an individualized environment. Students learn to use transcription and voice recognition equipment in order to make formatting decisions while improving listening skills. Student learning outcomes focus on English, proofreading, editing and producing mailable documents, (3/0/0/0), Prereq: BCA-136, BCA-212, COM-710; Arts & Sciences Elective Code: B

ADM-176 Electronic Records System 3

Create, collect, process, maintain, retrieve, use, store, disseminate and dispose of records using an electronic records system. Student use the Windows environment to store records according to ARMA (Association of Records Managers and Administrators, Inc.) alphabetic rules. Numeric, geographic, and subject filing rules are explored. Students research and present up-to-date material on retention, retrieval and transfer of records. (3/0/0/0), Arts & Sciences Elective Code: B

ADM-254 Business Professionalism 1

Develops and recognizes leadership and teamwork utilizing a student professional organization, Business Professionals of America (BPA). Special emphasis is placed on leadership development activities. Students are provided the opportunity to participate in state and national business competitions, earn awards, perform community service and seek local, state and national office. This course may be repeated for credit. (1/0/0/0), Arts & Sciences Elective Code: B

ADM-257 Professionalism in the Workplace 2

This course covers the various aspects of professionalism. Students complete five units of course work that focus on professional growth, professional organizations, success, professional image and research. Students create a professional growth plan, determine the value of professional organizations, develop success attributes, hone a professional image and research various career options. (2/0/0/0), Arts & Sciences Elective Code: B

ADM-924 Honors Project 1

Allows qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean.

ADM-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

ADN: ASSOCIATE DEGREE NURSING

ADN-105 Introduction to Associate Degree Nursing 1

Examines the role of the associate degree registered nurse. Concepts of nursing process, wellness, community and management are introduced. (1/0/0/0), Prereq: PNN-533, PNN-732, PSY-111, PSY-121, SPC-101; Coreq: ADN-577, ADN-723; Arts & Sciences Elective Code: B

ADN-577 Associate Degree Nursing I 3.5

Emphasizes the utilization of the nursing process to promote adaptation in clients with physiological problems. Concepts studied include acid/base balance, fluid and electrolytes, shock, and biological defenses. Selected disease states present in the adult population assist in the application of these concepts. The areas of pathophysiology, nutrition and pharmacology are integrated relative to the client problems. Advanced skills are practiced in a supervised lab setting. (3/1/0/0), Prereq: PNN-533, PNN-732, PSY-111, PSY-121, SPC-101; Coreq: ADN-105, ADN-723; Arts & Sciences Elective Code: B

ADN-653 Associate Degree Nursing II 3

Emphasizes the utilization of the nursing process to promote adaptation in adults, families and communities. Selected cardiovascular and neurological disease states are studied. Advanced psychosocial concepts and illnesses are studied in the context of the family and the community. The areas of pathophysiology, nutrition and pharmacology are integrated relative to the client problems. (3/0/0/0), Prereq: ADN-105, ADN-577, ADN-723; Coreq: ADN-724; Arts & Sciences Elective Code: B

ADN-654 Associate Degree Nursing III 4

Emphasizes the utilization of the nursing process to promote adaptation in adult, pediatric and obstetrical clients with acute multi-system problems. Registered nurse roles related to community and management are studied. The areas of pathophysiology, nutrition and pharmacology are integrated relative to the client problems. (3/2/0/0), Prereq: ADN-653, ADN-724; Coreq: ADN-725; Arts & Sciences Elective Code: B

ADN-723 Associate Degree Nursing Clinical I 3

Focuses on the application of knowledge, psychomotor and affective skills to perform the role of provider of care. Emphasis is on making advanced assessments and performing nursing skills associated with acute inpatient settings. Concepts related to nutrition, pharmacology, pathophysiology and care planning are applied. (0/0/9/0), Prereq: PNN-732; Coreq: ADN-105, ADN-577; Arts & Sciences Elective Code: B

ADN-724 Associate Degree Nursing Clinical II 3

Focuses on the application of knowledge, psychomotor and affective skills to perform the

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role of provider of care. Emphasis is on making advanced physiological and psychosocial assessments and planning individualized care in acute inpatient settings. Concepts related to nutrition, pharmacology, pathophysiology and care planning are applied. (0/0/9/0), Prereq: ADN-105, ADN-577, ADN-723; Coreq: ADN-653; Arts & Sciences Elective Code: B

ADN-725 Associate Degree Nursing Clinical III 4
Focuses on the application of knowledge, psychomotor and affective skills to perform the role of provider of care. Emphasis is on developing, prioritizing and evaluating individualized care of clients with complex disease states in acute care and community settings. Concepts related to nutrition, pharmacology, pathophysiology and care planning are applied. (0/0/12/0), Prereq: ADN-653, ADN-724, BIO-186; Coreq: ADN-654; Arts & Sciences Elective Code: B

ADN-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

ADN-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGA: AG-AGRONOMY

AGA-114 Principles of Agronomy 3
Presents instruction in crop plant classification, use and identification. Also covers cropping systems, tillage methods, planting and harvesting methods, and crop growth patterns. A balance of theoretical and practical crop science. (3/0/0/0), Arts & Sciences Elective Code: A

AGA-154 Fundamentals of Soil Science 3
Studies physical and chemical properties of soil, soil formation and classification. Also studies the essential plant nutrients and their availability in soil. Balances theoretical and practical aspects of soil fertility and includes soil testing and fertilizer products. (2/2/0/0), Arts & Sciences Elective Code: A

AGA-165 Agricultural Fertilizers and Chemicals 3
Reviews fertility concepts and relates them to fertilizers and fertilizer application methods.

Includes soil sampling methods, analyzing a soil test report, choosing application methods and calculating fertilizer costs. Studies herbicides and insecticides used on Midwestern farms. Topics include chemical safety, selection and application methods. (2/2/0/0), Arts & Sciences Elective Code: B

AGA-209 Row Crop Production 3
Studies and compares different types of tillage methods, seed varieties, fertilizer programs, diseases and chemical application, as well as weed control and new harvest methods used in modern row crop production. (2/2/0/0), Arts & Sciences Elective Code: B

AGA-217 Field Crop Harvesting and Drying 3
Introduces the basics, theory and operation of combines and choppers with actual in-the-field adjustment and operation of machines. (1/4/0/0), Arts & Sciences Elective Code: B

AGA-283 Pesticide Application Certification 2
Prepares students for the Iowa Commercial Applicators or Iowa Private Applicators examinations. Studies agricultural chemicals using the Iowa Core Manual, which emphasizes proper application techniques, safety and regulatory compliance. (2/0/0/0), Arts & Sciences Elective Code: B

AGA-376 Integrated Pest Management 3
Develops observation and identifies symptoms of insect damage, weed and herbicide problems. Utilizes the concept of integrated pest management and economic threshold in recommending control methods. (2/2/0/0), Arts & Sciences Elective Code: B

AGA-381 Crop Scouting 3
Focuses on identification of pest problems in crops and on developing an integrated pest management program. Students learn to utilize economic thresholds in recommending control methods. Students also learn to prevent potential fertility, pest and environmental problems with crop production practices. (2/2/0/0), Arts & Sciences Elective Code: B

AGA-880 Forage Crop Management 3
Covers production and management of forage crops in pasture and field scenarios. Emphasizes optimizing yield, quality and stand persistence in grazing, hay and silage systems. (3/0/0/0), Arts & Sciences Elective Code: B

AGA-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

AGA-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a

staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGA-948 Special Projects: Agronomy 1
Includes an agreed-to development plan for an applied problem solution. Students and instructor meet regularly for discussion, observation and evaluation of the project development. (1/0/0/0), Arts & Sciences Elective Code: B

AGB: AG-FARM MANAGEMENT

AGB-101 Agricultural Economics 3
Principles of production, supply and demand applied to economic problems of agriculture and agricultural-related industries, and to decisions in farm management, marketing, foreign trade and agricultural policy. Reviews the principles of diminishing returns, marginal costs, opportunity cost, substitution, and the concept of risk and uncertainty. (3/0/0/0), Arts & Sciences Elective Code: B

AGB-133 Introduction to Ag Business 3
Focuses on entrepreneurship in agribusiness. Includes the study of marketing, budgeting, financial statements, purchasing, business structure, customer relations and inventory control. (3/0/0/0), Arts & Sciences Elective Code: B

AGB-138 Principles of Agribusiness 3
Emphasis on markets, marketing institutions, marketing functions and problems in moving goods or services from the agricultural producer to the consumer. (3/0/0/0), Arts & Sciences Elective Code: B

AGB-235 Introduction to Agriculture Markets 3
Studies the concepts, institutions, procedures, methods and problems in moving goods or services from the producer to the consumer. Cash marketing, forward contracting, futures marketing and options marketing are taught. (3/0/0/0), Arts & Sciences Elective Code: A

AGB-251 Agribusiness Procedures 3
Reviews terminology used in agribusiness, the handling of money from sales, inventory control, customer credit control, business money management and basic double-entry bookkeeping. (2/2/0/0), Arts & Sciences Elective Code: B

AGB-322 Buildings and Equipment 2
Prepares agribusiness students to master mechanical skills for their employment

internship in agribusiness. Students learn how to work on fertilizer, chemical and feed equipment. Students will be assisted in identifying and obtaining required licenses and permits for internship. (0/4/0/0), Arts & Sciences Elective Code: B

AGB-325 Agricultural Construction and Repair 3
Deals with knowledge and skill development in general repair and construction with regard to a general stable, farm or livestock production system. Deals with practical aspects of concrete, carpentry, plumbing and electricity. When possible, real laboratory situations are used to present of this information. (1/4/0/0), Arts & Sciences Elective Code: B

AGB-328 Farm and Family Financial Management 2
Designed to instruct producers in financial and production management. Deals with goal setting, balance sheets, cash flow, enterprise analysis and risk level. (2/0/0/0), Arts & Sciences Elective Code: B

AGB-330 Farm Business Management 3
Applies farm accounting, economic principles and budgeting to the organization and management of a farm business. Includes risk and uncertainty, precautions and adjustments, size of business, capital acquisition and control, as well as crop, livestock, machinery and labor management considerations. (2/2/0/0), Arts & Sciences Elective Code: A

AGB-332 Agricultural Advertising/ Merchandising 3
Covers planning, creation and use of advertising related to agricultural economy and marketing of agricultural products. Purposes of advertising and displaying of merchandise, methods of appeal, copy problems, layout, design problems and selection of media. Practical applications will be demonstrated. (2/2/0/0), Arts & Sciences Elective Code: B

AGB-336 Agricultural Selling 3
Covers the fundamentals and techniques of successful selling, developing sales personality and the selling cycle. Practical application through sales presentation of the principles of selling using videotape as a self-evaluation device. (2/2/0/0), Arts & Sciences Elective Code: B

AGB-466 Agricultural Finance 3
Emphasizes general principles associated with the evaluation of management and the use of capital in agricultural business. Application of effective use of credit and credit instruments, and description and analysis of agricultural credit institutions and agencies will be taught. (2/2/0/0), Arts & Sciences Elective Code: A

AGB-470 Farm Records, Accounts, Analysis 3
Provides knowledge of methods of keeping farm records and accounts for farm and tax

management uses. Students complete a record keeping project and prepare a cash flow budget, income statement and balance sheet. Uses double-entry procedures along with a farm accounting computer program. (2/2/0/0), Arts & Sciences Elective Code: A

AGB-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

AGB-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGC: AG-COMPREHENSIVE

AGC-101 Composting 101 1
Provides an understanding of the principles of composting and practical management of a compost pile. Addresses the microbial system functions that allow farm feedstocks to be used to obtain desired results. Involves hands-on experience in how to solve problems and maintain an environmentally and economically-sound compost system. (1/0/0/0), Arts & Sciences Elective Code: B

AGC-103 Ag Computer 3
Studies the use of personal microcomputers for processing firm and financial records. Emphasizes word processing, database management, spreadsheets, PowerPoint presentations and Internet use. (2/2/0/0), Arts & Sciences Elective Code: B

AGC-115 Ag Career Orientation 3
Provides students with an overview of their chosen career field. Students identify areas of interest within the industry and make an educational plan to attain their career goals. Includes activities to assist students in adjusting to college life and exploring Kirkwood opportunities. (1/0/0/0), Arts & Sciences Elective Code: B

AGC-130 Mathematics I – Agriculture 3
Provides the student with math skills relating to agricultural economics, agribusiness, animal science, agronomy and agricultural mechanics. Applies the basic math functions and basic algebra to practical agricultural situations. (3/0/0/0), Arts & Sciences Elective Code: B

AGC-160 Introduction to Technical Chemistry 4
Provides a background in general chemistry that enables students to succeed in clinical chemistry.

The hands-on laboratory exercises allow students to learn physical chemical properties and work more efficiently in an industry laboratory. (3/2/0/0), Arts & Sciences Elective Code: B

AGC-210 Employment Seminar 1
Assists the student in planning and knowing the rules in employment internship. Includes current topics on resumé writing, interviewing techniques and other job-hunting skills. (1/0/0/0), Arts & Sciences Elective Code: B

AGC-313 Leadership in Agriculture 1
Develops skills in using parliamentary procedure, business meeting agendas, techniques of delegation, applied communication skills, organization structure and job-seeking skills. Includes determining cooperative activities, organization funding, committee functions and leading discussion groups. (1/0/0/0), Arts & Sciences Elective Code: B

AGC-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of an honors faculty member. Requires completion of an honors project learning contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

AGC-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGC-932 Internship 2-6
Provides on-the-job training in an approved business establishment. Valuable learning experiences are structured by the program coordinator and the training sponsor. (0/0/0/8-24), Arts & Sciences Elective Code: B; Comments: Program coordinator approval

AGE: AG-EQUINE

AGE-104 Total Fitness for the Rider 1
Students will learn basic principles and techniques in strength training and conditioning to help performance and communication with the horse. Critical elements of equestrian fitness to be covered include basic fitness program design, nutrition, various lifting techniques or modalities, flexibility, and cardiovascular fitness. (1/0/0/0), Arts & Sciences Elective Code: B

AGE-107 Trail Riding 1-2
Introduces factors that affect a horse on the trail such as laws, ride preparation, equipment,

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trail etiquette, application of reins, seat and anticipation. (0.5-1/1-2/0/0), Prereq: AGE-110; Arts & Sciences Elective Code: B; Comments: Permission of instructor and dean.

AGE-108 Introduction to Horsemanship-Balanced Seat 3

Introduction to the principles of horsemanship stressing horse care before and after riding, the initial seat position, elements of the seat, posting trot, coordination of the aids, turns and leads of the canter, as well as anatomical, physiological and psychological implications involved in riding. (1/4/0/0), Arts & Sciences Elective Code: B

AGE-109 Horsemanship-Balanced Seat 3

Further development of the balanced seat, good hands and correct form at the natural gaits of the horse. Includes application of the principles of basic ground work. (1/4/0/0), Arts & Sciences Elective Code: B

AGE-110 Beginning Western Balanced Seat 2

Provides applied instruction in developing the western rider and horse. Balanced-seat approach stressed; covers horse handling, grooming, haltering, leading, saddling, bridling and fundamentals of walk, jog and beginning lope. (1/2/0/0), Arts & Sciences Elective Code: B

AGE-111 Advanced Western Horsemanship 2

Instruction in developing western rider and horse. Balanced seat approach is stressed with rider's role in controlling action and movement in stock horse application. (1/2/0/0), Prereq: AGE-110; Arts & Sciences Elective Code: B

AGE-112 Advanced Horsemanship Techniques 2

Provides basic fundamental points of riding by the execution of a horse of complex maneuvers in response to barely perceptible movements of a rider's hands, legs and weight. (1/2/0/0), Arts & Sciences Elective Code: B; Comments: Previous riding class or permission of instructor.

AGE-120 Horse Evaluation 2

Provides information on horse conformation. Students can apply knowledge and develop their potential in judging horses by comparatively analyzing a class of horses. Students will cover anatomy and skeletal structure. (1/2/0/0), Arts & Sciences Elective Code: B

AGE-130 Horse Nutrition 3

Discusses essential nutrients and their role in an animal's metabolism. Covers unique digestive physiology and anatomy, nutrient excess and deficiency symptoms, and includes lab exercises. (3/0/0/0), Arts & Sciences Elective Code: B

AGE-161 Instructing Horsemanship 3

Students learn an understanding of running a riding lesson program, what considerations need

to be taken, horse selection and riding ability levels. (2/2/0/0), Prereq: AGE-108 or AGE-110; Arts & Sciences Elective Code: B

AGE-168 Horse Breeds Selection 2

Recognizes the major and minor horse breeds and their uses. Students identify the different breeds as to their breed characteristics, origin, capabilities, type, conformation and history of the breed from the beginning to the present. (1/2/0/0), Arts & Sciences Elective Code: B

AGE-169 Horse Production Proficiency 3

Applies actual feeding and care of the college's horses under a practical management situation. Certain competency tests must be performed related to an efficient stable master schedule and the implementation of a schedule and the tasks related to such. (2/2/0/0), Arts & Sciences Elective Code: B

AGE-170 Health and Performance Management of the Horse 3

Discusses and identifies the conformation of the horse, the respiratory, digestive, nervous and circulatory systems, plus skeletal and muscle structure. Relates causes and prevention of economically important horse diseases. Current state and federal regulations are also described. This course is generally taught by a veterinarian. (3/0/0/0), Arts & Sciences Elective Code: B

AGE-180 Agricultural Mechanics - Horse Science 3

Designed to familiarize students with horse farm lab equipment. Requires the student to demonstrate a working proficiency with tractor and spreader, skid steer loader, horse truck and trailer, and other equipment. (1/4/0/0), Arts & Sciences Elective Code: B

AGE-185 Facilities Maintenance 2

Establishes basic understanding and manipulative skills related to facility maintenance. Deals with the fundamentals of farm carpentry, fences, concrete, buildings, stalls, plumbing, electricity and general upkeep. Competency base is stressed. (1/2/0/0), Arts & Sciences Elective Code: B

AGE-203 Equine Genetics 2

Covers basic principles of genetics. Includes and discusses various hereditary traits with an emphasis on color genetics and the role heredity has on confirmation traits. Discusses how to use genetics and hereditary traits to benefit an equine breeding program. (2/0/0/0), Arts & Sciences Elective Code: B

AGE-205 Breeding Management 2

Covers the physiology and anatomy of the mare and stallion. Includes breeding management of

both mare and stallion. Reviews common fertility problems in both. Discusses and identifies causes of absorption and abortion in the mare. Identifies common techniques used in equine reproduction, including artificial insemination. (1/2/0/0), Arts & Sciences Elective Code: B

AGE-206 Advanced Breeding Management 2

Introduces advanced reproductive techniques using state-of-the-art equipment. Discusses diagnostic testing. Students get experience extending, cooling, freezing semen and evaluating semen. Students learn to understand and read uterine biopsy results, including how to prepare specimens for uterine cytology and microbiology. (1/2/0/0), Prereq: AGE-205; Arts & Sciences Elective Code: B

AGE-212 Horse Business Practices 3

Applies the necessary steps in becoming a horse business owner from investing, licenses and tax benefits. Other areas covered include marketing, insurance, buying and selling, employees and independent contractors, pedigree or performance records, and IRS information. (3/0/0/0), Arts & Sciences Elective Code: B

AGE-213 Management of the Racing Thoroughbred 1

Identifies the techniques of managing the thoroughbred racehorse. Describes the basic care of the thoroughbred including feeding, veterinary, farrier and conditioning practices. Identifies special techniques, which include taking temperature, pulse, respiration, X-rays, blood counts and pre-race preparation. Interpretation and analysis of thoroughbred pedigrees and racetrack operations are taught. Some course time may be spent at a racetrack. (0.5/1/0/0), Arts & Sciences Elective Code: B

AGE-230 Training I 2

Introduces initial horse training principles and techniques. Emphasizes natural horsemanship theory and practice. (0/4/0/0), Prereq: AGE-108 or AGE-110 or AGE-111; Arts & Sciences Elective Code: B

AGE-231 Training II 3

Builds on the principles, theories and practical experiences learned in Training I. Covers early training, handling, lunging, and horsemanship, with an emphasis on equine psychology. Presents proper methodology for various bits and equipment. (2/2/0/0), Prereq: AGE-230; Arts & Sciences Elective Code: B

AGE-232 Training III 2

Provides instruction in management of specialized training of various types of horses.

Emphasis is on the theory and practice of training principles, horsemanship skills and methods, and how they are executed. (1/2/0/0), Prereq: AGE-230, AGE-231; Arts & Sciences Elective Code: B

AGE-240 Fundamentals of Training 3
Deals in basic training fundamentals on an individual basis. This is an open lab course. (2/2/0/0), Arts & Sciences Elective Code: B

AGE-241 Colt Starting 2
Designed to teach students the fundamental principles of training the young horse through practical application. (1/2/0/0), Prereq: AGE-230 or AGE-231 or AGE-232; Arts & Sciences Elective Code: B

AGE-246 Long Lining and Driving Techniques 3
Improves the basic techniques of long reining and driving. Includes tack familiarization, rein use, long-lining, preliminaries to harnessing and driving. (2/2/0/0), Arts & Sciences Elective Code: B

AGE-252 Horse Shows 4
Identifies and applies necessary requirements to prepare and show a horse, and includes instruction and participation in setting up and conducting a horse show. Students may actually show in available horse shows. (1/6/0/0), Arts & Sciences Elective Code: B

AGE-260 Introduction to Farrier Science 1
(Trimming the Horse's Hoof)
Presents basic hoof preparation and trimming concepts. Students study current hoof status (before and after), foot and leg problems, and methods of correction. Stresses applied lab technique, with forge work available. (0.5/1/0/0), Arts & Sciences Elective Code: B

AGE-261 Legs, Hoof and Farrier Science 2
Provides instruction on the care and condition of horses' legs and feet, and covers basic concepts of correct preparation and shoeing of a horse, foot unsoundness, leg problems, and methods of correction by proper trimming and shoeing. Includes the examination of stance, gaits, unsoundness, breed requirements, methods of restraint, and types of corrective shoes and how they function. (2/0/0/0), Arts & Sciences Elective Code: B

AGE-270 Equestrian Drill Team 2
Riders and horses are developed into a working unit of two or more drill teams. Western balance seat is stressed with work on maneuvers, routine and patterns. Horsemanship is taught to improve communication between horse and rider. Historical study of where and how the maneuvers were used in cavalry units of Iowa is included. (1/2/0/0), Arts & Sciences Elective Code: B

AGE-290 Horse Projects 1
A preplanned schedule for discussion, observation and evaluation of the horse project

is developed. Covers athletic performance of the horse, training and environmental effects, and use of records. Management of facilities and other horse projects are stressed. Includes an agreed-to development plan for an applied problem solution. (1/0/0/0), Prereq: AGE-230; Arts & Sciences Elective Code: B

AGE-295 Western Style Training Project 3
Introduces Western pleasure training fundamentals, techniques, equipment (bits, reins and training aids) and horse conformation. Emphasizes correct movement of horse and rider, as well as learning the meaning of "forward motion." Riders develop individual goals for themselves and their horses. (2/2/0/0), Arts & Sciences Elective Code: B

AGE-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

AGE-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGF: AG-FLORAL

AGF-120 Floral Plant Identification and Care I 2
Studies identification, care and handling requirements of cut flowers and foliages and green and blooming plants commonly sold in retail flower shops. (1/2/0/0), Arts & Sciences Elective Code: B

AGF-122 Floral Plant Identification and Care II 2
Studies the common and botanical names and growth requirements of green, blooming and bedding plants commonly sold in retail flower shops. (2/0/0/0), Arts & Sciences Elective Code: B

AGF-130 Floral Careers Computer Literacy 2
Introduces students to applications for computers in the floral industry and computer use for assignments in the Floral Careers program. Topics include operating systems, MS Word, hardware and software, terminology, functions, applications, Windows, spreadsheets and Internet. Designed for the student with little or no computer experience. Self-paced. (1/2/0/0), Arts & Sciences Elective Code: B

AGF-135 Floral Careers Plant Propagation 2
Studies environmental factors needed to produce optimum growth requirements of green and

bedding plants in lecture and laboratory settings. Introduces techniques used in reproducing plants through sexual and asexual methods. (0/4/0/0), Arts & Sciences Elective Code: B

AGF-140 Floral Design I 3
Introduces basic geometric design of fresh arrangements, corsages, Christmas arrangements, funeral flowers, potted plants and green planters. Includes use of tools and supplies. (1/4/0/0), Arts & Sciences Elective Code: B

AGF-142 Floral Design II 3
Studies advanced floral design of fresh flowers, funeral, memorial and wedding arrangements. (1/4/0/0), Prereq: AGF-140; Arts & Sciences Elective Code: B

AGF-144 Floral Design III A 2
Involves advanced all-occasion and wedding designing, including table setting and copy work. (0/4/0/0), Prereq: AGF-142; Arts & Sciences Elective Code: B

AGF-146 Floral Design III B 1
Promotes student's individual style through introduction of current design trends and floral industry influences. (0/2/0/0), Prereq: AGF-144; Arts & Sciences Elective Code: B

AGF-150 Retail Flower Shop Operation I 3
Introduces the florist business, floral product sales, general selling and efficient shop layout. Studies the processing of floral orders, terminology and telephone procedures. (3/0/0/0), Arts & Sciences Elective Code: B

AGF-152 Retail Flower Shop Operation II 4
Studies the aspects of the floral business involving funeral and wedding arrangements. Sales and etiquette of these floral products is included. (4/0/0/0), Prereq: AGF-150; Arts & Sciences Elective Code: B

AGF-154 Retail Flower Shop Operation III 2
Analyzes the floral business as a center of employment, personnel policies, shop management and operations. (2/0/0/0), Prereq: AGF-150, AGF-152; Arts & Sciences Elective Code: B

AGF-160 Event Planning I 1
Introduces the career of an event planner. Includes characteristics of an event planner, organizing the business, marketing and networking. Students plan, produce and successfully execute special events. (0.5/1/0/0), Arts & Sciences Elective Code: B

AGF-162 Event Planning II 1
Emphasizes instruction and practical experience in many areas of event planning, with major

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emphasis on wedding planning and corporate events. Students plan, produce and successfully execute special events. (0.5/1/0/0), Prereq: AGF-160; Arts & Sciences Elective Code: B

AGF-164 Event Planning III 3
Emphasizes instruction and practical experience in event planning, including event planning management, contract negotiation, visual presentation, and marketing and advertising special events. Students plan, produce and successfully execute special events. (2/2/0/0), Prereq: AGF-162; Arts & Sciences Elective Code: B

AGF-300 Design Show Seminar 2
Introduces students to current technical information used for problem solving in the floral industry. Special emphasis is devoted to planning and conducting the annual floral design show. (2/0/0/0), Coreq: AGF-144; Arts & Sciences Elective Code: B

AGF-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

AGF-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGH: AG-HORTICULTURE

AGH-102 Horticulture Math 3
Reviews basic math calculations including math operations, fractions, decimals, introductory algebra and geometry. Relates math problems to horticulture applications. (3/0/0/0), Arts & Sciences Elective Code: B

AGH-106 Introduction to Horticulture 3
Introduces students to basic horticulture. Includes plant anatomy and physiology, plant classification and identification, and basic plant care. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-110 Success in Horticulture 1
Acquaints students with critical issues relevant to horticulture, and provides information, skills and opportunities to be successful in the program, as well as their chosen career. Encourages students to stay engaged in their educational experience, both in and outside the classroom. This class is a source for both personal and academic growth, where students can develop lasting relationships and acquire skills to help them in making

difficult choices. (1/0/0/0), Arts & Sciences Elective Code: B

AGH-112 Introduction to Turfgrass Management 3
Examines the culture of turf with an emphasis placed on establishments, turf varieties, and pest identification and control. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-120 Herbaceous Plant Materials 3
Studies the identification and cultural requirements of approximately 40 annual and 40 herbaceous perennial plants. Includes bed establishment and care. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-123 Woody Plant Materials 3
Develops skills in the identification, landscape use and cultural requirements of 80 varieties of deciduous trees and shrubs native to Iowa, as well as conifers used in windbreak and wildlife plantings. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-127 Ornamental Plant Materials 3
Studies the identification, landscape use and cultural requirements of 80 ornamental trees, shrubs and vines. (2/2/0/0), Prereq: AGH-123; Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-131 Greenhouse Management 3
Studies growing techniques used in commercial greenhouse plant production. Involves the design of greenhouses, their environmental control systems and cultural practices. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student.

AGH-141 Equipment Operations 3
Introduces the student to basic equipment maintenance, operation and troubleshooting. Provides a working knowledge of equipment used in the horticulture industry. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-144 Landscape Construction and Design 3
Involves the construction of landscape paving, concrete, retaining walls, basic wood construction, basic electrical and plumbing. Also covered are calculations necessary to order materials and bid procedures. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-152 Landscape Design Techniques 3
Provides information and practice in basic graphic communication and introductory landscape design. Topics covered include use of scales, basic drafting, landscape symbols, design process, master planning, design with plant material and cost estimating. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-156 Landscape Design II 3
Expands graphic communication and landscape design skills. Topics include freehand plan

graphics, quick sketching, perspective and color drawing, landscape master planning, advanced plant design, amenity design, commercial layout. (2/2/0/0), Prereq: AGH-152; Arts & Sciences Elective Code: B; Comments: Second-year student.

AGH-158 Computer Applications for the Landscape Industry 2
Introduces students to software used in the landscape, nursery, garden center fields. Students will learn new applications of Microsoft Office programs with an emphasis on marketing, inventory control, and customer relations. Some design software is also used including both two-dimensional (plan view) designing and photo imagery. (1/2/0/0), Prereq: AGH-152; Arts & Sciences Elective Code: B; Comments: Demonstrated computer competence

AGH-163 Irrigation Design 2
Covers water basics, pressure considerations, design and layout of irrigation systems for home and commercial use. (1/2/0/0), Prereq: AGH-165; Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-165 Irrigation Installation and Repair 2
Develops skills in the areas of irrigation system installation and repair. Topics covered include trenching and installation of irrigation pipe, heads, valves, and controls; system troubleshooting; and minor system repair. (1/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student.

AGH-190 Interior Plantscape 3
This course surveys 60 to 70 tropical green plants used in the interior plant industry. Interior design, installation and maintenance are also taught. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-211 Advanced Turfgrass Management 3
Presents management techniques used in high-maintenance turf areas. Students receive advanced instruction in fertilization, pesticides, etc. (3/0/0/0), Prereq: AGH-112; Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-233 Plant Propagation I 3
Introduces students to techniques used in reproducing plants through sexual and asexual methods. Seedlings, vegetative cuttings, grafts and buddings are practiced in the laboratory. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-236 Plant Material Maintenance 3
Studies pruning, fertilizing, staking and other maintenance practices utilized in tree and shrub care. Emphasis is placed on proper planting and transplanting procedures. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-238 Soil and Water Conservation 3
Studies the different components of soil, soil forming factors, soil erosion and soil

conservation. Introduces the student to surveying techniques and use of soil survey reports. (2/2/0/0), Arts & Sciences Elective Code: B

AGH-253 Insects and Diseases 3
Identifies common insects and diseases of horticulture crops and plant material. Control measures are discussed including chemical controls and integrated pest management. (3/0/0/0), Arts & Sciences Elective Code: B

AGH-262 Fruit and Vegetable Science 3
Introduces the student to the production of Midwestern fruit and vegetables with an emphasis on cultural practices, variety selections and storage. (3/0/0/0), Arts & Sciences Elective Code: B

AGH-275 Commercial Plant Production 3
Covers production of greenhouse plants, nursery plants and nursery operations. Involves design, management, and harvesting for field and container growing operations. Also surveys related growing operations. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student.

AGH-279 Botany for Horticulture 2
Examines basic plant material anatomy, physiology and taxonomy. Emphasis is placed on plant material used in landscape and turf fields. (2/0/0/0), Arts & Sciences Elective Code: B

AGH-282 Pesticide Application Certification- Horticulture 1
Reviews materials and testing procedures used to certify pesticide applicators. Concentration is provided on core testing. (1/0/0/0), Arts & Sciences Elective Code: B

AGH-293 Landscape Business Operations 2
Introduces marketing, merchandising, advertising and business analysis as it relates to landscape business. Specialty management techniques and systematic business approaches are explored. (2/0/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student.

AGH-295 Horticulture Merchandising 2
Introduces the student to basic sales procedures and stresses product knowledge of horticulture products and services. Students concentrate on relating product information to customers. (2/0/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student.

AGH-400 Athletic Field Maintenance 3
Involves the design, preparation, and maintenance of athletic fields for various sports. Includes the study of various playing surfaces, drainage systems and specialized equipment used on athletic fields. Course includes field trips to local athletic complexes. (2/2/0/0), Prereq: AGH-112; Arts & Sciences Elective Code: B

AGH-405 Golf Course Maintenance 3
Involves the theory of design, installation and maintenance of specialized turf and other

areas commonly found on golf courses. Student is provided with experience maintaining an on-campus golf green, fairway and tee. Course includes field trips to local golf courses. (2/2/0/0), Prereq: AGH-112; Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-411 Grounds Computer Applications 2
Covers uses of computers in the grounds and golf course fields. Emphasis is on introductory irrigation design/management, business management and grounds course management software. (1/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-425 Grounds Maintenance 3
Introduces maintenance practices used in sports complexes, parks and recreation areas, and commercial and industrial grounds. Pesticide certification requirements are also covered. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGH-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

AGH-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGH-948 Special Projects: Horticulture 1
Involves individualized study programs or projects supervised by instructional staff. Students resolve special interests/needs through research, experimentation or other related methods. (1-3/0/0/0), Arts & Sciences Elective Code: B

AGM: AG-MECHANICS

AGM-103 Agricultural Electrical 3
Builds on electrical skills learned in Fundamentals of Electricity with emphasis on electrical circuits and subassemblies found in most tractors, skid loaders and combines. Concentrates on the circuits in interior and exterior lights, dash, wiper motors, temperature controls, electric hydraulic controls, electric transmission controls, and on-board computers. (2/2/0/0), Prereq: DSL-143; Arts & Sciences Elective Code: B

AGM-113 Hydraulics I 3
Introduces the basic laws and theories of fluid power. Includes operation and testing of pumps,

valves, cylinders and motors commonly found in vehicles and equipment. (2/2/0/0), Arts & Sciences Elective Code: B

AGM-124 Technical Procedures for Power Mechanics Technicians 3
Identifies the general knowledge and procedures used by power technicians. Covers tool selection, general shop safety, fire safety and forklift operation. (2/2/0/0), Arts & Sciences Elective Code: B

AGM-403 Combine Operation & Adjustment 2
Introduces combine operation and safety. Includes hands-on, in-the-field machine operation and adjustment. (1/2/0/0), Prereq: AGM-419; Arts & Sciences Elective Code: B

AGM-404 Combine Servicing 4
Emphasizes repairing and reconditioning combines and chopper units. Includes basic hydraulic, electric, power train, monitor, and chassis adjustments. (0/8/0/0), Prereq: AGM-403; Arts & Sciences Elective Code: B

AGM-405 Ag Engines 3
Introduces diesel engines commonly used in the ag industry. The design of engine components and subassemblies is examined with an emphasis on why certain design features are used. Correct procedures for testing and servicing ag engines are explained and demonstrated. (2/2/0/0), Prereq: DSL-355; Arts & Sciences Elective Code: B

AGM-406 Fundamentals of Power Transfer I 3
Includes an introduction to basic drive trains including clutches, manual transmissions, propeller shafts, rear axle assemblies and planetary gears. Emphasizes operation, diagnosis, repair and maintenance procedures. (2/2/0/0), Arts & Sciences Elective Code: B

AGM-409 Agricultural Diagnosis 13
Approaches diesel and gas-powered engine diagnosis and overhaul from a hands-on perspective. Students repair real farm equipment with minimal instructor supervision. Emphasizes extensive engine testing, troubleshooting, repairing, inspecting and assembling. (3/20/0/0), Prereq: AGM-103, AGM-124, AGM-405, AGM-406, AGM-414, AGM-422, AGM-440, DSL-143, DSL-355; Arts & Sciences Elective Code: B

AGM-414 Fundamentals of Air Conditioning 2
Provides a comprehensive introduction to air conditioning in diesel powered vehicles. Students gain a basic understanding of theory, diagnostic practices and procedures essential to air conditioning servicing. (1/2/0/0), Arts & Sciences Elective Code: B

AGM-419 Machinery Servicing 3
Allows students to recondition used farm equipment such as planters, sprayers, disks and

Course Descriptions

other tillage equipment. Does not include the engine-powered part of the machine. Includes testing and diagnosis of electronic monitoring systems. (2/2/0/0), Arts & Sciences Elective Code: B

AGM-422 Diesel Fuel Systems 4

Covers diesel fuel systems in relation to the engine itself. Diagnosis and testing or troubleshooting take place using special testing tools. Particular fundamentals are covered in compression testing, pump timing, engine component testing, and injector removal testing and repair. (2/4/0/0), Prereq: DSL-355; Arts & Sciences Elective Code: B

AGM-440 Power Shift Transmissions 3

Covers operation, theory, diagnosis and overhaul of fluid-driven equipment. Includes power shift, hydrostatic- and hydraulic-assist transmissions. Also includes torque converters. (1.5/3/0/0), Prereq: AGM-406; Arts & Sciences Elective Code: B

AGM-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

AGM-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGM-932 Internship 1-5

Involves employment allowing the student practical, on-the-job training with a business related to the student's instructional program. Student is required to prepare a training plan and other reports. (0/0/0/4), Arts & Sciences Elective Code: B

AGN: AG-NATURAL RESOURCES/ FORESTRY

AGN-105 Park Computer Applications 2

Explores software typically used in parks and natural resource fields. Emphasis is on introductory desktop publishing, inventory control and business management software. (1/2/0/0), Arts & Sciences Elective Code: B

AGN-132 Plant Management for Parks 3

Emphasizes the establishment and maintenance of plant materials typically encountered in

state, county and city park systems. Covers establishment procedures and proper maintenance practices for basic turf species, trees, shrubs and groundcovers utilized in park systems. Focuses on maintenance practices including mowing, pruning, fertilization, pest control and proper plant placement. (2/2/0/0), Arts & Sciences Elective Code: B

AGN-140 Plants of the Wild 3

Identifies plant materials existing in natural woodlands, roadsides and prairies. Special emphasis is placed on prairie forbs. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-220 Avian Wildlife 3

Includes training in identification and management of nesting and game birds of the upper Midwest. Environmental requirements and relationships are included. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-223 Aquatic Wildlife 3

Studies the identification of fish, amphibians and reptiles native to Iowa. Emphasis is placed on habitat requirements and management concerns. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-226 Mammalian Wildlife 3

Provides training in identification and management of upper Midwest mammals. Environmental requirements and relationships are stressed. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-235 Park and Recreation Administration 3

Examines the organization and administration of park systems and recreational programs. Current issues in park management are covered. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Must be a second-year student

AGN-240 Natural Resources Interpretation 3

This course develops skills in all facets of interpretation. Nature walks, public presentations, displays, news releases and photography are incorporated into interpretive exercises. (3/0/0/0), Prereq: AGN-248; Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-244 Wildlife Management 3

Students learn proper wildlife management through carefully planned and maintained reserves, preserves and refuges. Management techniques presented include those for game, non-game and aquatic animals. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-248 Natural Resources Appreciation 3

Surveys the nonliving natural resources of Iowa. Examines how park and recreation agencies

integrate these resources into their overall programs. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-250 Park Maintenance Programs 3

Includes development and analysis of maintenance programs for buildings, campgrounds, lake areas and related recreational facilities. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Second-year student

AGN-260 Wildland Firefighter Training 3

Covers the four training segments required for wildland firefighter certification: S-130 reviews basic wildland firefighting skills, S-190 studies fire behavior and the environmental factors that affect fire behavior, L-180 addresses human factors on the fireline, and I-100 studies the wildland firefighting management system. (3/0/0/0), Arts & Sciences Elective Code: B

AGN-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Requires approval of supervising professor and dean. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A

AGN-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGP: AG-PRECISION AG

AGP-329 Introduction to GPS 3

Studies fundamental processes of Global Positioning Systems with an emphasis on agriculture applications. General technical aspects of GPS satellites, differential correction and hardware will be covered. Agricultural mapping, navigation, VRT and yield monitoring will be discussed. (3/0/0/0), Arts & Sciences Elective Code: B

AGP-333 Precision Farming Systems 3

Provides a background in the tools of precision farming, GPS, GIS and VRT. Introductory use of each of these tools in a precision farming system and how they are applied on the farm are covered. Hands-on activities with local data will provide a practical experience in the use of these tools. (2/2/0/0), Arts & Sciences Elective Code: B

AGP-405 Introduction to ArcView 3

Provides an overview of the various applications of geographic information systems (GIS).

ArcView software is used to cover basic interface, views, themes, tables and layouts. Basic functions such as query and editing layers are previewed. Hands-on computer exercises provide practical experience in several disciplines including agriculture, city/government planning or transportation. (2/2/0/0), Arts & Sciences Elective Code: B

AGP-407 ArcInfo in Agriculture 4
Covers the basic use of ArcInfo and its specific application to agriculture. ArcMap, ArcCatalog and ArcToolbox are used to accomplish specific agricultural tasks. Though focused toward agriculture, other disciplines are also discussed and concepts can be applied. (2/4/0/0), Arts & Sciences Elective Code: B

AGP-410 Visual Basic Programming 3
Provides an introduction to programming using Visual Basic. Scripts and requests used by many software programs can be edited using Visual Basic. Fundamentals of programming and common specific commands are covered. (2/2/0/0), Arts & Sciences Elective Code: B

AGP-411 Advanced Database 3
Details analysis and management techniques, as well as import and export functions. Oracle will be introduced. Databases have become important tools in business and industry with the use of MIS and GIS. These programs use advanced databases, which can be very powerful tools. (2/2/0/0), Arts & Sciences Elective Code: B

AGP-420 Geospatial Data Collection 3
Provides detailed instruction and hands-on use of GPS receivers and dataloggers to collect field data. The process for creating spatial data structure, maintenance of equipment and use of datalogging software is the main focus. Data management and evaluation are also covered. (2/2/0/0), Arts & Sciences Elective Code: B

AGP-425 Agricultural Spatial Analysis 4
Provides a background in the analysis of spatial data. Specific topics include transformation and retrieval of data, analytical techniques and spatial modeling. Concepts of multivariate and multitemporal analysis are also discussed. (3/2/0/0), Prereq: AGP-405; Arts & Sciences Elective Code: B

AGP-430 Physical Geography for Agriculture 3
Studies how and why physical earth attributes vary spatially. Emphasizes the spatial distribution of the earth's natural geological and soil features, and climatic and weather patterns. Datums, projections and coordinate systems are discussed. Geographic Information Systems are used to provide students with hands-on experience in mapping. (2/2/0/0), Arts & Sciences Elective Code: B

AGP-435 Advanced Precision Farming Systems- Software 3
Introduces various precision farming software

in real-world applications. Focuses on initial setup, creating management and production lists, saving and unloading data cards, processing field data, and compiling reports and prescription/application maps. (2/2/0/0), Prereq: AGP-333; Arts & Sciences Elective Code: B

AGP-436 Advanced Precision Farming Systems- Hardware 3
Focuses on precision farming hardware components. Students install displays, GPS units and control components, and are required to read and understand technical manuals. (2/2/0/0), Prereq: AGP-333; Arts & Sciences Elective Code: B

AGP-440 Ag Applications of Digital Imagery 3
Provides background in the use of remotely sensed digital imagery for agricultural decision making. Specific topics include types of images, methods of collecting imagery, verification, interpretation and analysis of data. Use of data for decision making is also discussed. (2/2/0/0), Arts & Sciences Elective Code: B

AGP-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

AGP-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGS-113 Survey of the Animal Industry 3
Breeds, basic management and marketing of farm animals. Composition, evaluation and marketing of animal products. Includes live animal demonstrations with cattle for meat and milk, horses, poultry, sheep and swine. (3/0/0/0), Arts & Sciences Elective Code: A

AGS-214 Domestic Animal Physiology 3
Studies the comparative anatomy and physiology of the major body systems of cattle, sheep, swine and horses. Includes laboratory exercises involving physiology and anatomy of animals in healthy and diseased states. (3/0/0/0), Arts & Sciences Elective Code: A

AGS: AG-ANIMAL SCIENCE

AGS-220 Domestic Animal Physiology Lab 1

Uses laboratory exercises to compare the anatomy and physiology of animals in healthy and diseased states. (0/2/0/0), Coreq: AGS-214; Arts & Sciences Elective Code: A

AGS-225 Swine Science 4
Presents current practices and strategies needed to profitably produce food animals. Lab exercises provide hands-on exposure to management of animals in all stages of production. (2/4/0/0), Arts & Sciences Elective Code: A

AGS-280 Livestock Merchandising 3
Covers the fundamentals of preparing for successful livestock sales, including advertising, photography, livestock preparation, sale guidelines and customer support. Students participate in one to three livestock sales. (1/4/0/0), Arts & Sciences Elective Code: B

AGS-305 Livestock Evaluation 3
Examines the selection of breeding and meat animals based upon performance and visual appraisal. Students will use Kirkwood farm laboratory livestock and may include off-campus assignments. (2/2/0/0), Arts & Sciences Elective Code: B

AGS-307 Professional Horse Judging 1
Examines the selection of breeding and show horses based on conformation and performance. Field trips and off-campus evaluation provide judging experiences for students. Oral reasons and judge certification process are covered. Students compete at intercollegiate contests. (0/2/0/0), Arts & Sciences Elective Code: B

AGS-319 Animal Nutrition 3
This course covers nutritional principles, digestive systems, composition and nutritional characteristics of common feedstuffs, ration formulation, and recommended feeding programs for farm animals. (3/0/0/0), Arts & Sciences Elective Code: A

AGS-338 Livestock Behavior and Welfare 4
Studies applications of basic animal behavior principles to ensure optimum performance and well-being. The course examines the effects of environment, stress, disease and nutrition on animal physiology and performance. (2/4/0/0), Prereq: AGS-113, AGS-214; Arts & Sciences Elective Code: A

AGS-350 Artificial Insemination of Cattle 1
Develops skills of artificial insemination, heat detection and supportive background knowledge of beef and dairy herds, and discusses recommended nutrition, management and genetics. (0.5/1/0/0), Arts & Sciences Elective Code: B

AGS-425 Swine Systems Management 3
Identifies records needed in swine production and record keeping techniques. Students prepare budgets and cash flows as they relate

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to swine production. Also, various marketing opportunities and practices are examined and analyzed. (2/2/0/0), Arts & Sciences Elective Code: A

AGS-441 Livestock Housing and Equipment 2
Studies the design and management of livestock facilities to limit stress and optimize performance. Students learn methods to minimize the environmental impact of livestock operations. (1/2/0/0), Prereq: AGS-214, AGC-130; Arts & Sciences Elective Code: A

AGS-530 Swine Reproduction and Management 4
Recognizes swine reproductive characteristics and reproductive functions of swine breeding stock, and identifies type and confirmation necessary for economic production. Also deals with breeds, breeding programs, breeding systems, including A.I., and appropriate management techniques. (2/4/0/0), Arts & Sciences Elective Code: A

AGS-550 Beef Breeding/Reproduction/Nutrition 5
Studies the anatomy and physiology of the female and male reproductive systems. Develops an understanding of proper use of heat synchronization, A.I., super ovulation, embryo transplants and new developments in biotechnology. Also deals with health, heritability and nutritional problems. (3/4/0/0), Arts & Sciences Elective Code: B

AGS-551 Beef Science Management 1
Works with evaluation management by identifying, measuring and selecting commercially important traits of beef cattle. Provides the basic information needed to understand terminology and predict performance through the use of sire summaries. Allows students to improve average performance of offspring by matching genetic potential to feed resources through multiple trait selection. (1/0/0/0), Arts & Sciences Elective Code: B

AGS-555 Beef/Cow Calf Production 3
Includes participation in calving of the Kirkwood Community College herd. Deals with proper nutrition, health, solving O.B. problems and preparation of cow's return to estrus. Also includes records, identification and pasture management. (1.5/3/0/0), Arts & Sciences Elective Code: B

AGS-560 Beef Industry and Feedlot Management 5
Presents an overview and introduction to the entire beef industry. Relates and applies methods

of starting cattle on feed and fall management of weaned calves. Deals with feedlot budgeting, determination of 205-day weights, ratios and fall management of the beef cow herd. (3/4/0/0), Arts & Sciences Elective Code: B

AGS-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

AGS-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGS-948 Special Projects 1
Includes an agreed-to development plan for an applied problem solution. Allows student to pursue exploration and fact gathering of special-interest projects. Student and instructor meet weekly for discussion, observation and evaluation of the project development. (1/0/0/0), Arts & Sciences Elective Code: B

AGT: AG-TECHNOLOGY

AGT-120 Agricultural Biotechnology 3
Students explore the application of biotechnology techniques and products in agriculture from production to consumption of food. (3/0/0/0), Arts & Sciences Elective Code: A

AGT-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

AGT-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGV: AG-VET-TECH

AGV-101 Veterinary Assisting 3
Allows students to develop basic clinical skills

expected of a veterinary assistant. Topics include basic restraint techniques, bandaging, basic laboratory procedures, basic radiology including safety and animal anatomy as related to patient positioning recognition, aseptic surgical recovery, and client communication. (1/4/0/0), Arts & Sciences Elective Code: B

AGV-105 Animal Behavior/Kennel Management 5
Studies basic animal behavior and the influences that modify behavior and kennel management including laws, records and daily operation of kennels. Practical experience is included. (3/4/0/0), Arts & Sciences Elective Code: B

AGV-107 Pharmacy Skills 3
An introductory course in small animal health products. Special emphasis on safe handling, storage, dispensing and use of common veterinary drugs and products. (2/2/0/0), Arts & Sciences Elective Code: B; Comments: Will not meet Veterinary Technician Pharmacology requirement

AGV-120 Veterinary Medical Terminology 1
Focuses on reading and interpreting medical charts and records, and conversing with veterinary professionals. Designed for students to develop a working understanding of the language of veterinary medicine. (1/0/0/0), Arts & Sciences Elective Code: B

AGV-126 Animal Anatomy and Physiology I 3
Beginning anatomy and physiology with veterinary clinical emphasis. Provides the basis for study of conformation, production and pathological processes of diseases of dogs, cats, horses, sheep, goats, cattle, swine and laboratory animals. (2/2/0/0), Arts & Sciences Elective Code: B

AGV-127 Animal Anatomy and Physiology II 4
Studies anatomy and physiologic principles of domestic animals. Continuation of physiological principles in Animal Anatomy and Physiology I. (4/0/0/0), Prereq: AGV-126; Arts & Sciences Elective Code: B

AGV-140 Veterinary Pharmacology 3
Studies medications and products commonly used in veterinary medicine. (3/0/0/0), Prereq: AGV-127, AGV-142; Arts & Sciences Elective Code: B

AGV-142 Math for Vet Tech 3
Covers pharmaceutical mathematics with an emphasis on dosage calculations and fluid therapy as related to veterinary medicine. Course is open to Vet Tech students only. (3/0/0/0), Arts & Sciences Elective Code: B

AGV-143 Canine and Feline Nutrition 3
Studies the nutritional requirements of dogs and cats with an emphasis on client education and customer service. Students analyze pet foods, identify strengths and weaknesses of commercial

diets and gain the basics of therapeutic nutrition. (3/0/0/0), Arts & Sciences Elective Code: B

AGV-144 Fundamentals of Small Animal Nutrition 3

Covers essential nutrients and the roles of each in an animal's metabolism, with an emphasis on the nutritional management of dogs and cats. Basic clinical and therapeutic nutrition are covered in depth. Includes analysis of many commercial pet foods. (3/0/0/0), Prereq: AGV-126, AGV-127; Arts & Sciences Elective Code: B

AGV-146 Large Animal Care 3

Provides general livestock husbandry, handling and restraint involving horses, cattle, sheep and swine. Includes major breed identification, characteristics, behavior traits, latest humane handling techniques and physical restraint. (1/4/0/0), Prereq: AGV-126; Arts & Sciences Elective Code: B

AGV-152 Veterinary Computer Applications 2

Introduces the student to computer software commonly used in veterinary practice. Students will become proficient in the use of Microsoft Office software and software used in the routine management of veterinary records. (2/0/0/0), Arts & Sciences Elective Code: B

AGV-153 Veterinary Reception and Administration Skills 3

Gives the student the skills necessary to function as a receptionist in a veterinary hospital. Focuses on telephone techniques, medical records, legal aspects of veterinary medical records, vaccination protocols, client communication, dealing with death and euthanasia, the admittance and discharge of patients, financial aspects of veterinary practice and basic practice management principles. (3/0/0/0), Arts & Sciences Elective Code: B

AGV-158 Veterinary Law and Ethics 3

Discusses moral, ethical and legal principles applicable to veterinarians and their employees, breeders, kennel operators, pet groomers and others allied to the small animal industry. Considers state, local and federal regulations relating to the industry. Effective client relations and telephone courtesy skills are also stressed. (3/0/0/0), Arts & Sciences Elective Code: B

AGV-161 Animal Nursing I 3

Introduces the fundamentals of animal nursing. Includes animal handling and restraint, patient admission and history, preparation and administration of vaccines and medications,

care of hospitalized patients, introduction to radiology, practice management, client relations and sanitation. Limited to Veterinary Technician students. (1/4/0/0), Prereq: AGV-105, AGV-126, AGV-142; Arts & Sciences Elective Code: B

AGV-162 Animal Nursing II 3

Continuation of Animal Nursing I. Covers foundation material in pre- and post-surgical care, surgical assisting, fluid therapy, dental prophylaxis, anesthesiology, clinical pharmacy and basic nursing skills. Clinic and hospital record keeping are covered with an introduction to practical radiology. (0/6/0/0), Prereq: AGV-140, AGV-161, AGC-932; Arts & Sciences Elective Code: B

AGV-163 Animal Nursing III 3

Continuation of Animal Nursing II. Emphasis is on radiology, record keeping, pharmacology associated with emergency care, inventory control, anesthesiology, dentistry, surgical assistance, and raptor care skills. (0/6/0/0), Prereq: AGC-932, AGV-162; Arts & Sciences Elective Code: B

AGV-167 Veterinary Clinic Pathology I 3

Introduction to veterinary clinical pathology with an emphasis on laboratory procedures commonly performed in private practice. Fecal analysis, basic urinalysis and basic hematology are covered. Proper care and maintenance of laboratory equipment is stressed. (2/2/0/0), Prereq: AGV-127; Arts & Sciences Elective Code: B

AGV-168 Veterinary Clinic Pathology II 3

Basic clinical pathology laboratory procedures including specimen collection and preservation, hematology, and fecal exam preparation. Hematology will include preparation and performance of PCV, Hb, WBC, RBC counts, preparation and staining blood smears, and performance of differential cell counts. Limited to Veterinary Technician students. (2/2/0/0), Prereq: AGV-167, AGC-932; Arts & Sciences Elective Code: B

AGV-169 Veterinary Clinic Pathology III 3

Refinement of hematology and other skills acquired in Veterinary Clinical Pathology II. Additional units include urinalysis, electrocardiography, necropsy, cytology and specialized clinical procedures. (2/2/0/0), Prereq: AGC-932, AGV-168; Arts & Sciences Elective Code: B

AGV-171 Large Animal and Poultry Medicine 4

Common and significant disease and health problems of livestock and poultry. Emphasis on herd/flock health, etiology, clinical symptoms, treatment and prevention. (3/2/0/0), Prereq: AGV-140; Arts & Sciences Elective Code: B

AGV-175 Small Animal and Cage Bird Medicine 4

Common and significant diseases of companion and laboratory animals. Diseases affecting birds and small animals with emphasis on etiology,

clinical symptoms, treatment and prevention. (3/2/0/0), Prereq: AGV-140; Arts & Sciences Elective Code: B

AGV-179 Lab Animal Medicine 1

Introduces students to laboratory animals used in research. Practical care with selected animals. (0/2/0/0), Prereq: AGV-162, AGV-168; Arts & Sciences Elective Code: B

AGV-201 Pet Grooming I 1.5

Emphasis on health care and basics of cats and dogs, introduction to grooming equipment and handling. (0.5/2/0/0), Arts & Sciences Elective Code: B

AGV-202 Pet Grooming II 1.5

Covers terriers, terrier patterns and terminology. Perfecting basics and feline grooming. Building confidence. (0.5/2/0/0), Prereq: AGV-201; Arts & Sciences Elective Code: B

AGV-203 Pet Grooming III 1.5

Introduces the student to poodle patterns and mixed breeds. Teaches the use of clippers, scissoring and finishing the groom. (0.5/2/0/0), Prereq: AGV-202; Arts & Sciences Elective Code: B

AGV-204 Pet Grooming IV 1.5

Develops basic skills for entry-level employment. Covers all breed grooming and various business aspects of the grooming industry. Reviews Level I through III and finishing techniques. (0.5/2/0/0), Prereq: AGV-203; Arts & Sciences Elective Code: B

AGV-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

AGV-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

AGV-948 Special Projects 1

Includes an agreed-to development plan for an applied problem solution. Student and instructor meet on a weekly basis to review progress. (1/0/0/0), Arts & Sciences Elective Code: B

ANT: ANTHROPOLOGY

ANT-105 Cultural Anthropology 3

Explores what it means to be human. A comparative, holistic study of group life in various cultures is undertaken. Selected

Course Descriptions

aspects of physical and cultural anthropology perspectives provide the basis for these cross-cultural examinations. (3/0/0/0), Arts & Sciences Elective Code: A

ANT-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ANT-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

APP: APPAREL MERCHANDISING

APP-120 Apparel Visual Merchandising 3
Offers basic instruction in display construction, the relationship of display to the total promotional program, the role of the visual merchandiser, elements of display design, construction materials and merchandise selection. Students have an opportunity to create merchandise displays. (2/2/0/0), Arts & Sciences Elective Code: B

APP-130 Principles of Fashion Merchandising 3
Provides a historical and evolutionary introduction to the field of fashion merchandising: sociological, psychological and economic aspects of fashion; fashion terminology, fashion cycles; and current practices in fashion retailing. (3/0/0/0), Arts & Sciences Elective Code: B

APP-140 Fashion History 3
Covers the development of costumes and accessories as a part of a socioeconomic and cultural force from ancient times to the present and its relationship to contemporary fashion trends. (3/0/0/0), Arts & Sciences Elective Code: B

APP-170 Fashion Trends and Consumer Analysis 3
Examines diversity among consumers such as ethnicity, gender identity and body satisfaction. Students research current trends and predict the direction of future trends in consumer behavior. (2/0/0/0), Arts & Sciences Elective Code: B

APP-210 Apparel Textiles 3
Studies basic fiber properties, yarn processing, fabric construction and fabric finishes. Fabric qualities are analyzed in relation to factors of design, strength, durability and serviceability. Directed laboratory activities provided. (3/0/0/0), Arts & Sciences Elective Code: A

APP-220 Fashion Show Procedures 3
Includes the principles of fashion show production: planning, coordinating and directing the fashion show. (1/4/0/0), Prereq: APP-130; Arts & Sciences Elective Code: B

APP-240 Fashion Design 3
Provides fashion sketching information to communicate various apparel styles. Historical review, study of contemporary designers and fashion trends are also presented. Students have an opportunity to develop beginning sketches and a line of apparel. (3/0/0/0), Arts & Sciences Elective Code: B

APP-280 Apparel Manufacturing 3
Studies the integrated apparel manufacturing processes. Emphasis is on garment analysis, product development, sourcing and production. (3/0/0/0), Arts & Sciences Elective Code: A

APP-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

APP-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

ARC: ARCHITECTURAL

ARC-100 Architectural Profession 1
Overviews the professional ethics, human relations and contract procedures in the architectural profession. Emphasizes the players as well as the process and legal/contractual issues involved in a typical construction project. (1/0/0/0), Arts & Sciences Elective Code: A

ARC-112 Architectural Drafting I 3
Introduces the fundamentals of sketching through simulated projects encountered in the profession. Includes translating three-dimensional constructions to two-dimensional orthographic sketches, as-builts and details. Explores lettering, line quality, architectural dimensioning and scale reading, organization, drawing revision and sketching. The student is also familiarized with the tools and techniques of the trade. (2/2/0/0), Arts & Sciences Elective Code: B

ARC-122 Architectural Drafting II 3
Introduces the fundamentals of drafting through the development of a complete set of residential working drawings. Emphasizes accuracy, line quality, construction vocabulary, building code awareness and understanding basic design processes. Explores preliminary layout,

organization, drawing revision and sketching. (2/2/0/0), Prereq: CON-116; Arts & Sciences Elective Code: B

ARC-135 American Architecture 1
Introduces the history of American architecture and its architects. Emphasizes construction of the twentieth century as well as Iowa architecture. Presents both residential and commercial structures. (1/0/0/0), Arts & Sciences Elective Code: A

ARC-195 Architectural Illustration and Model Building 3
Introduces the basic concepts of architectural illustration and model building. Explores artistic expression using a variety of techniques, including computer software. Emphasizes development of artistic graphics and models necessary for representing architectural structures as well as locating them in context. (2/2/0/0), Prereq: BCA-212 or CSC-110 or IND-155; Arts & Sciences Elective Code: B

ARC-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ARC-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

ART: ART

ART-101 Art Appreciation 3
Provides an overview of art from a historical, contemporary and aesthetic frame of reference. Recommended for non-Art majors. (3/0/0/0), Arts & Sciences Elective Code: A

ART-120 2-D Design 3
Introduces problems in two-dimensional design, color theory and application. Includes surface, pattern, composition, line and stylization. (1/4/0/0), Arts & Sciences Elective Code: A

ART-123 3-D Design 3
Introduces the basic concepts of design with three-dimensional materials. (1/4/0/0), Arts & Sciences Elective Code: A

ART-133 Drawing 3
Introduces analysis of visual form and principles of responsive drawing. Includes perspective, chiaroscuro and figure drawing. (1/4/0/0), Arts & Sciences Elective Code: A

ART-134 Drawing II 3

Continues skills begun in Drawing. Emphasis on figure drawing from model, various media. Emphasizes development of personal expression and portfolio. (1/4/0/0), Prereq: ART-133; Arts & Sciences Elective Code: A

ART-138 Figure Drawing 3
Familiarizes students with drawing the human figure. Course focuses on observational drawing from the model, emphasizing the activity of drawing from life, refining skills in observation and rendering. Attention is given to formal aspects of drawing, including methods of approach and execution, personal expression and broader expectations vis-a-vis critique. (1/4/0/0), Prereq: ART-133; Arts & Sciences Elective Code: A

ART-143 Painting
Introduces oil or acrylic painting. Emphasizes canvas preparation, composition and craftsmanship. (1/4/0/0), Arts & Sciences Elective Code: A

ART-144 Painting II 3
Builds on skills learned in Painting with emphasis on development of independent aesthetic judgments. (1/4/0/0), Prereq: ART-143; Arts & Sciences Elective Code: A

ART-157 Printmaking 3
Introduces intaglio, relief and stencil printmaking processes and composition. (1/4/0/0), Arts & Sciences Elective Code: A

ART-158 Printmaking II 3
Continues technical development in relief and intaglio techniques; aesthetics stressed. (1/4/0/0), Prereq: ART-157; Arts & Sciences Elective Code: A

ART-163 Sculpture 3
Introduces techniques and concepts of sculpture using materials such as metal, glass, clay, wood, and plaster. (1/4/0/0), Arts & Sciences Elective Code: A

ART-164 Sculpture II 3
Continues the exploration of techniques and concepts of sculptural form. Assignments are geared for progressive development in the individual's ability. (1/4/0/0), Prereq: ART-163; Arts & Sciences Elective Code: A

ART-165 Sculpture III 3
Continues the exploration and development of techniques and concepts of sculptural form. Assignments are geared for progressive development of the individual's ability. May be repeated once for credit. (1/4/0/0), Prereq: ART-164; Arts & Sciences Elective Code: A

ART-173 Ceramics 3
Introduces wheel-thrown forms and hand-building forms. Students examine methods of working with clay. (1/4/0/0), Arts & Sciences Elective Code: A

ART-174 Ceramics II 3
Continues the development of wheel-throwing

and hand-building skills. Assignments are geared for progressive development of the individual's ability. (1/4/0/0), Prereq: ART-173; Arts & Sciences Elective Code: A

ART-175 Ceramics III 3
Continues the development of wheel-throwing and hand-building skills gained in Ceramics II. Assignments are geared for progressive development of the individual's ability. May be repeated once for credit. (1/4/0/0), Prereq: ART-174; Arts & Sciences Elective Code: A

ART-183 Photography II 2
Continues exploration of photographic materials with emphasis placed on the development of a personal vision. Experimentation with the twin lens reflex camera. (2/0/0/0), Prereq: ART-181; Arts & Sciences Elective Code: A

ART-184 Photography 3
Provides aesthetic, ethical and philosophical frameworks used in understanding the historical and contemporary worlds of photography. Focuses on both film and digital cameras. Highlights principles and elements of design and photographic composition. Photographs are created in a traditional and contemporary setting for portfolio and display. (2/2/0/0), Arts & Sciences Elective Code: A

ART-185 Photography II 3
Continues exploration of photographic capture/concept using traditional and digital media. Emphasizes development of personal vision while exploring the grammar of photography. The frame, focus, motion and materials used to produce work provide a framework for dictating the visual outcome. Traditional and digital approaches are combined in the production of student portfolios and displays. (2/2/0/0), Prereq: ART-184; Arts & Sciences Elective Code: A

ART-186 Digital Photography 3
Develops familiarity and proficiency with digital cameras, computers and printers. Studies technical and aesthetic issues in visual communication and digital image capture/presentation. Students complete presentations, critiques online, portfolio and displays. (2/2/0/0), Arts & Sciences Elective Code: A

ART-190 History of Photography 3
Studies the history, language and meaning of photography and introduces students to significant photographers, influential movements and the evolution of technologies throughout photography's history. Students are exposed to formal elements of art, principles of design and composition, the language of aesthetics, as well

as technical terminology relating to photography. The course explores the technical and visual evolution of photography within the context of both socio-political and aesthetic trends. Major topics include: scientific/chemical development, mechanical/optical invention, and contemporary issues surrounding photography. (3/0/0/0), Arts & Sciences Elective Code: A

ART-203 Art History I 3
Introduces the history of art chronologically, from the prehistoric period in Europe to the early Renaissance. Cultivates a meaningful recognition of different styles, concepts and concerns through an analysis of selected paintings, sculptures, architecture and other mediums. Emphasizes the thematic issues prevalent in various time periods and geographic/cultural areas. Examines interpretation, concepts, theories, and comparison of styles and techniques through readings, visual presentations, lecture and discussion. (3/0/0/0), Arts & Sciences Elective Code: A

ART-204 Art History II 3
Introduces the history of art chronologically, from the Renaissance to the 21st century. Cultivates a meaningful recognition of different styles, concepts and concerns through an analysis of selected paintings, sculptures, architecture and other mediums. Emphasizes the thematic issues prevalent in various time periods and geographic/cultural areas. Examines interpretation, concepts, theories, and comparison of styles and techniques through readings, visual presentations, lecture and discussion. (3/0/0/0), Arts & Sciences Elective Code: A

ART-220 Ceramics IV 3
Provides opportunity for students to do advanced individual projects in sculptural and functional ceramics. Assignments are geared for progressive development of the individual's ability. Technical awareness of glaze materials, glaze formulation, firing techniques and studio operations are covered. Specific objectives are individualized and recorded in a contract signed by instructor and student. May be repeated for credit. (1/4/0/0), Prereq: ART-175; Arts & Sciences Elective Code: A

ART-223 Intermediate Digital Photography 3
Improves proficiency with digital SLR cameras, computer applications and printing. Students build on technical and aesthetic issues in visual communication and digital image concept, capture and presentation. Students explore RAW format digital processing and digital photo management applications. Strongly emphasizes digital manipulation. (2/2/0/0), Prereq: ART-186; Arts & Sciences Elective Code: A

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ART-283 Advanced Black and White Photography 3
Refines exposure/development techniques, printing and finishing of archival print production. Emphasizes development of personal vision through use of traditional and digital capture. Production of student work includes silver-base, inkjet and alternative processes. Portfolios are produced and students are required to display work. (2/2/0/0), Prereq: ART-185; Arts & Sciences Elective Code: A

ART-290 Projects in Photography 1
Studies photography as a way to communicate or make art. Students propose a personal project that can be created in traditional or digital capture. Work is displayed and weekly meetings mark progress on student project. (0/2/0/0), Arts & Sciences Elective Code: A

ART-405 Jewelry: Metalsmithing I 3
Introduces contemporary and traditional metalworking techniques and concepts, including the construction of small metal forms with a sculptural approach. The emphasis is on basic fabrication and manipulation methods. This class consists of group and individual demonstrations, discussions, and critiques. Slide lectures, visiting artists, reading and project assignments as well as discussions of current trends in the metals and craft fields will be covered. Demonstrations will include sheet metal fabrication, hammer forming, hydraulic die forming, soldering, riveting, repousse, etching, stone setting and patinations. Projects include the creation of jewelry, flatware, and other functional and non-functional objects using metals or other materials. (1/4/0/0), Arts & Sciences Elective Code: A

ART-407 Jewelry: Metalsmithing II 3
Investigates contemporary and traditional metalworking techniques and concepts, including the construction of small metal forms with a sculptural approach. The emphasis is on basic fabrication, manipulation, and casting methods. This class consists of group and individual demonstrations, discussions, and critiques. Slide lectures, visiting artists, reading and project assignments as well as discussions of current trends in the metals and craft fields will be covered. Demonstrations include more advanced methods of sheet metal fabrication, hammer forming, hydraulic die forming, soldering, riveting, repousse, stone setting, patinations and casting. Projects include the creation of jewelry, flatware, and other functional and non-functional objects using metals or other materials. (1/4/0/0), Prereq: ART-405; Arts & Sciences Elective Code: A

ART-420 Glass I 3
Introduces contemporary and traditional glassworking techniques and concepts. Hot glassblowing, fusing, slumping and kiln casting will be covered. This class includes group and

individual demonstrations, discussions, and critiques. Slide lectures, visiting artists, reading and project assignments as well as discussions of current trends in the field of glass art will be covered. Demonstrations include the creation of hollow forms, solid cast forms and flat fusing, and other functional and non-functional objects using glass. (1/4/0/0), Prereq: ART-120, ART-123, ART-133, ART-163, ART-173 or ART-405; Arts & Sciences Elective Code: A

ART-422 Glass II 3
Investigates contemporary and traditional glassworking techniques and concepts including hot glassblowing, fusing, slumping and kiln casting. This class consists of group and individual demonstrations, discussions and critiques. Slide lectures, visiting artists, reading and project assignments, as well as discussions of current trends in the field of glass art, will be covered. Demonstrations will include intermediate hot glass blowing, fusing, slumping and kiln casting. Projects will include the creation of hollow forms, solid cast forms and flat fusing, and other functional and non-functional objects using glass. (1/4/0/0), Prereq: ART-420; Arts & Sciences Elective Code: A

ART-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ART-928 Independent Study 1-3
Allows the student to do readings, papers, research and/or production work under the guidance of an art faculty member. Independent study contract required. (1-3/0/0/0), Arts & Sciences Elective Code: A

ASL: AMERICAN SIGN LANGUAGE

ASL-141 American Sign Language I 4
Provides a beginning interactive course to promote comfort and knowledge in using grammar, syntax, vocabulary, fingerspelling, semantics and non-manual behaviors of American Sign Language in professional, social and every day normal conversational situations. Receptive and expressive skills are emphasized. Course is taught in American Sign Language and has a "no voice" policy. (4/0/0/0), Arts & Sciences Elective Code: A

ASL-171 American Sign Language II 4
Allows continued development of American Sign Language grammar, syntax, vocabulary, fingerspelling, semantics and non-manual behaviors. Emphasis given to comprehension, production skills and use of language in a cultural context. Course is taught in American Sign Language and has a "no voice" policy. This course applies toward satisfaction of Historical/Cultural core for an A.A. degree. (4/0/0/0).

Prereq: ASL-141; Arts & Sciences Elective Code: A

ASL-241 American Sign Language III 3
Expands on previously learned grammar, syntax, sentence structure and vocabulary in more depth. Emphasizes expressive skills: students learn to tell stories and use the language in a variety of settings. This course applies toward satisfaction of historical/cultural core for an A.A. degree. (3/0/0/0), Prereq: ASL-171; Arts & Sciences Elective Code: A

ASL-271 American Sign Language IV 3
Focuses on an expanded awareness of the behaviors, values and issues in deaf culture through slang, varying levels of formality and socially appropriate language usage. Emphasizes receptive skills: students learn to read signed stories and poetry. This course applies toward satisfaction of historical/cultural core for an A.A. degree. (3/0/0/0), Prereq: ASL-241; Arts & Sciences Elective Code: A

ASL-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ASL-928 Independent Study 1-2
Allows the student to do readings, papers, research /or other projects under the individual guidance of a staff member. Independent study contract required. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

AUT: AUTOMOTIVE TECHNOLOGY

AUT-104 Introduction to Automotive Technology 3
Provides the beginning apprentice technician with an introductory overview of automotive servicing from a maintenance and replacement standpoint. Classroom and hands-on activities emphasize routine maintenance procedures in the care of tires, batteries, lighting, belts, hoses, filters and cooling systems. Presents career information on career pathways, employers, goal setting, skills inventory, student club information and personal plan. (2/2/0/0), Arts & Sciences Elective Code: B

AUT-163 Automotive Engine Repair 3
Covers fundamentals of internal combustion engine operation, servicing and adjustment. Students learn theories in practical, hands-on applications in both the classroom and lab exercises. (2/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B

AUT-165 Automotive Engine Repair 5

<p>Covers fundamentals of internal combustion engine operation, servicing and adjustment. Students learn theories in practical, hands-on applications in both the classroom and lab exercises. (3/4/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-205 Automotive Automatic Transmissions and Transaxles 5</p> <p>Provides a comprehensive introduction to automatic transmission theory, including hydraulic circuits, torque converters, clutches, planetary gear systems and valves. Practical hands-on labs reinforce theories. Students practice component disassembly and reassembly with a variety of automatic transmissions. (4/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-205 Automotive Automatic Transmissions and Transaxles 5</p> <p>Provides a comprehensive introduction to automatic transmission theory, including hydraulic circuits, torque converters, clutches, planetary gear systems and valves. Practical hands-on labs reinforce theories. Students practice component disassembly and reassembly with a variety of automatic transmissions. (4/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-303 Automotive Manual Drive Train & Axles 3</p> <p>Introduces students to fundamental principles related to manual drive trains including an introduction to basic drive trains including clutches, manual transmissions, shafts, rear axle assemblies and gears. Students learn operation diagnosis, repair and maintenance procedures. Lab exercises reinforce theories in practical, hands-on settings. (2/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-403 Automotive Suspension and Steering 3</p> <p>Focuses on front and rear suspension system principles of operation, system components and steering geometry as they relate to alignment and diagnosis of steering and suspension problems. Lab activities reinforce theories in a practical, hands-on application. (2/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-503 Automotive Brake Systems 3</p> <p>Focuses on brake system theory, diagnosis and repair of drum brakes. Lab exercises reinforce lecture theories in a practical, hands-on setting. (2/2/0/0), Arts & Sciences Elective Code: B</p>	<p>AUT-603 Basic Automotive Electricity 3</p> <p>Introduces students to basic fundamental electrical and electronics related to the automobile. Topics covered include voltage, amperage, resistance, Ohm's Law and practical application. Series, parallel and series-parallel circuits are also studied. (2/2/0/0), Arts & Sciences Elective Code: B</p>	<p>AUT-620 Hybrid Electric Vehicle Fundamentals 2</p> <p>Introduces the fundamentals of hybrid electric vehicles. Explores the hybrid power plant, including hybrid batteries, high- and low-voltage systems, inverters, safety procedures, hybrid maintenance and diagnostics. Includes other alternative fuels. (2/0/0/0), Arts & Sciences Elective Code: B</p>	<p>AUT-655 Automotive Advanced Electricity 5</p> <p>Continues Basic Automotive Electricity. Covers automotive electrical systems with an emphasis on the following circuits: exterior lighting, interior lighting, steering column electrical dash, wiper motors, automatic temperature controls, power windows, power door locks, body computers and other electrical components. (4/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-703 Automotive Heating and Air Conditioning 3</p> <p>Provides a comprehensive introduction to vehicular air conditioning. Students develop a basic understanding of theory, diagnostic practices and procedures essential to air conditioning servicing. Development of sound practice and good judgment in performance of all air conditioning procedures is emphasized. (2/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-804 Automotive Engine Performance I 4</p> <p>Deals with computerized scopes, meters and ECM diagnostics. Oscilloscope pattern analysis is covered with emphasis on primary and secondary patterns, plus square-wave and sine-wave patterns. ECM data analysis, i.e. sensor functions and voltage values as related to drivability and customer satisfaction, is also covered. Focuses on diagnosis and correction of performance and engine design improvements. (3/2/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-812 Automotive Engine Performance II 4</p> <p>Concentrates on diagnosis and correction of engine performance. Students learn the fundamentals, as well as new engine design improvements. (3/2/0/0), Arts & Sciences Elective Code: B</p>	<p>AUT-816 Fuel and Ignition Systems 4</p> <p>Covers operational theory, diagnostics and preventive maintenance of automotive computerized ignition and fuel systems. (3/2/0/0), Prereq: AUT-655; Arts & Sciences Elective Code: B</p>	<p>AUT-818 Automotive Engine Performance III 4</p> <p>Continues Auto Engine Performance II. Learning activities improve students' understanding of engine design improvements. (3/2/0/0), Prereq: AUT-804, AUT-812; Arts & Sciences Elective Code: B</p>	<p>AUT-819 Computerized Engine Controls 8</p> <p>Focuses on Comprehensive Engine Diagnostic Analysis; basic engine compression, ignition system, cooling system, charging system, fuel system, computer data scan and trouble code check. Covers operational theory and diagnostics of input sensors, computer outputs and networking, On-Board Diagnostics II (OBD-II), computer systems, emission control systems and</p>	<p>five gas analysis. A large part of class time is spent operating scopes, lab-scopes, and factory and aftermarket scan-tools. (6/4/0/0), Prereq: AUT-816; Arts & Sciences Elective Code: B</p>	<p>AUT-888 Technical Lab I 4</p> <p>Simulated automotive repair environment. Learning activities include complaint, cause and correction to customer vehicles. Parts and labor calculations also covered. (1/6/0/0), Arts & Sciences Elective Code: B</p>	<p>AUT-889 Technical Lab II 4</p> <p>Continues to expose students to an automotive repair environment. Learning activities include complaint, cause and correction to customer vehicles. Parts and labor calculations also covered. (1/6/0/0), Prereq: AUT-104, AUT-603, MAT-715; Arts & Sciences Elective Code: B</p>	<p>AUT-924 Honors Project 1</p> <p>Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean</p>	<p>AUT-928 Independent Study 1</p> <p>Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean</p>	<p>AUT-932 Internship 2</p> <p>Builds applied skills through employment, providing practical, on-the-job training at businesses related to instructional programs. Students are required to prepare training plans and other reports. (0/0/0/128), Arts & Sciences Elective Code: B</p>	<p>BCA: BUSINESS COMPUTER APPLICATIONS</p>	<p>BCA-070 College Readiness Experience Computer Skills 1</p> <p>Provides basic computer skills instruction to students enrolled in the College Readiness Experience program. Focuses on basic keyboard knowledge. (0/2/0/0), Arts & Sciences Elective Code: D</p>	<p>BCA-080 College Prep Computer Skills 1</p> <p>Provides basic computer skills instruction to students enrolled in the College Prep Block. Focuses on basic keyboard knowledge and command functions. (1/0/0/0), Arts & Sciences Elective Code: B</p>	<p>BCA-135 Introduction to Word Processing 3</p> <p>Provides instruction in alphabetic and numeric</p>
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Course Descriptions

keyboarding and includes exercises designed to increase speed to 45 words per minute with five or fewer errors on five-minute timed writings. Includes instruction in the use of proofreaders' marks and in creating standard business letters, interoffice memos, tables, simple reports and newsletters using Microsoft Word. (2/2/0/0), Arts & Sciences Elective Code: A

BCA-136 Advanced Word Processing 3

Begins with a review of basic business correspondence. Instruction includes advanced topics such as mail merge, macros, styles, complex tables, long reports, graphics and online forms. Guided drills are designed to increase speed to 55 words per minute with five or fewer errors on five-minute timed writings. (2/2/0/0), Prereq: BCA-135; Arts & Sciences Elective Code: A

BCA-138 Advanced Word Processing Applications 3

Provides further reinforcement of all concepts learned in Advanced Word Processing. Covers mail merge, macros, styles, complex tables, desktop published documents, online forms and long reports. Includes keying specialized documents, such as agendas, news releases, itineraries and speeches. Guided drills are designed to increase speed to 60 words per minute with five or fewer errors on five-minute timed writings. Students learn to make effective document formatting decisions working independently. (2/2/0/0), Prereq: BCA-136; Arts & Sciences Elective Code: A

BCA-179 PowerPoint Multimedia 3

Develops knowledge of multimedia concepts by studying multimedia software and the hardware components needed to develop and view multimedia productions. Assessment projects are used by students for demonstration of knowledge of multimedia elements (copyright, video, graphics, sound, animation) knowledge of tools (digital camera, video camera, scanner, cams), and knowledge of editing software (sound editing, video editing, graphics editing). (2/2/0/0), Prereq: BCA-212; Arts & Sciences Elective Code: B

BCA-189 Microcomputer Literacy 1

Introduces the student to the personal computer concepts and basic computer applications. Students gain knowledge and skills in the basic concepts of Microsoft Windows and Word. They also gain experience using the Internet and email. The course introduces students to spreadsheet and presentation software. This introductory course is intended for students with no knowledge or experience using personal computers. (0.5/1/0/0), Arts & Sciences Elective Code: B

BCA-212 Introduction to Computer Business Applications 3

Provides basic development of software

applications using Microsoft Word, Access, Excel and PowerPoint. Apply this knowledge by creating documents, worksheets, databases and presentations for both business and personal use. (2/2/0/0), Arts & Sciences Elective Code: B

BCA-213 Intermediate Computer Business Applications 3

Extends basic knowledge of Microsoft Word, Access, Excel and PowerPoint. Upon completion of this course students should be able to demonstrate proficiency at the core level of the MOS (Microsoft Office Specialist) certification. (2/2/0/0), Prereq: BCA-212 or CSC-110; Arts & Sciences Elective Code: B

BCA-214 Advanced Computer Business Applications 3

Gain advanced skills in Word, Excel, Access and PowerPoint. Upon completion of this course, students should be able to demonstrate proficiency at the expert level on the MOS (Microsoft Office Specialist) certification. (2/2/0/0), Prereq: BCA-213; Arts & Sciences Elective Code: B

BCA-221 Integrated Computer Business Applications 3

Integrates the skills, knowledge and personal qualities necessary to perform in today's office setting. Students create documents integrating Microsoft Word, Excel, PowerPoint and Access. Students also demonstrate problem-solving techniques, decision-making skills and teamwork abilities. (2/2/0/0), Prereq: BCA-213; Arts & Sciences Elective Code: B

BCA-253 Desktop Publishing Projects 2

Builds business desktop publishing skills. Students create fliers, posters, business cards, proposals, books, brochures, forms, newsletters and Web sites using Adobe InDesign software. Introduces Adobe Photoshop as a companion to desktop publishing. (2/0/0/0), Prereq: ADM-142; Arts & Sciences Elective Code: B

BCA-290 Web Design Principles 3

Focuses on the concepts of the overall production process surrounding Web site design with particular emphasis on layout, navigation and maintenance of Web sites. Students are exposed to a Web authoring software to design and create a Web site. (2/2/0/0), Arts & Sciences Elective Code: B

BCA-292 Media Tools for the Web 3

Applies media tools to create and enhance multimedia presentations or Web sites. This course is designed to add additional software skills in the design and development of a presentation or a Web site. Students learn how to use photo, video and sound editing software. (2/2/0/0), Arts & Sciences Elective Code: B

BCA-294 Multimedia Projects 2

Incorporates media elements such as sound, video, graphics and animation to develop and create a multimedia presentation (Web site, training video or interactive presentation) that targets an identified audience. (2/0/0/0), Prereq: BCA-179, BCA-292; Arts & Sciences Elective Code: B

BCA-300 Web Analytics 3

Introduces the key concepts, tools, techniques and practices of Web analytics, a core business and communication channel organizations use to realize their Web sites' full potential. Focuses on how Web analytics can drive higher profits and improve customer experiences. Emphasizes techniques students can use to successfully advocate and promote the use of Web analytics by organizations. (3/0/0/0), Arts & Sciences Elective Code: B

BCA-302 Audio/Video for the Web 3

Enables students to identify and use the tools that bring photographic (film, video and still) images and audio to the Internet. Appropriate media selection, software tools for encoding various media, delivery system attributes and limitations, associated file types, audio and video codes and software players are discussed. Students prepare aural and visual media for the Web by creating and encoding assigned projects. (2/2/0/0), Arts & Sciences Elective Code: B

BCA-304 Emerging Technology Trends 1

Integrates information technology into students' daily experience. Emphasizes good habits and ethical practices as a computer user, as well as an appreciation for the role information technology plays in today's society. Regular machine maintenance is performed, and issues concerning acceptable and mannerly use are discussed. Develops awareness of current legal, societal, ethical, and economic dilemmas and trends driven by information technology. (0.5/1/0/0), Arts & Sciences Elective Code: B

BCA-767 Adobe Acrobat 2

Emphasizes publishing in portable document format (PDF) using Adobe Acrobat software. Add interactive elements or use comments to help review documents. Create slide shows and presentations with Acrobat. Learn how to place security locks on sensitive files. (1/2/0/0), Arts & Sciences Elective Code: B; Comments: Students should have a working knowledge of the computer and operating system.

BCA-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

<p>BCA-928 Independent Study 1 Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean</p>	<p>Sciences Elective Code: A</p>	<p>or above</p>
BIO: BIOLOGY		
<p>BIO-104 Introductory Biology With Lab 3 Intended as a beginning-level course for liberal arts students who are not planning to major in the sciences. The course includes genetics, evolution, ecology, plant and animal reproduction, and biodiversity. Current topics in life science are covered throughout the course. Students are offered a variety of opportunities in laboratory through investigations, discussion, written expression and readings. (2/2/0/0), Arts & Sciences Elective Code: A</p>	<p>BIO-151 Nutrition 3 Designed to show the relationship between sound nutrition and good health. Topics studied are: energy requirements, carbohydrates, lipids, proteins, vitamins, minerals, metabolism, physical exercise, dieting, weight problems, evaluation of nutritional claims, vegetarianism, and proper nutrition during pregnancy and lactation. (3/0/0/0), Arts & Sciences Elective Code: A; Comments: Does not count as a science course for the A.A. degree</p>	<p>BIO-180 Human Physiology 4 Examines the physiological processes associated with human body systems. Topics include biochemistry, metabolism, hormone actions, muscular physiology, neurophysiology, cardiovascular function, renal function, acid/base/electrolyte regulation, nutrient absorption, immune response and reproduction functions. Lab investigates system physiological responses and culminates in a research experience (3/2/0/0), Prereq: BIO-177; Arts & Sciences Elective Code: A</p>
<p>BIO-110 Basic Biological Concepts 3 Designed for the student with little or no background in biology or chemistry, or as a refresher for the student who has not taken either for many years. Provides a basic foundation for further course work in the biological sciences. (3/0/0/0), Arts & Sciences Elective Code: B</p>	<p>BIO-154 Human Biology 3 Examines human form and function and the relationship of humans to other living things. Fundamental biological principles as they apply to the human are explored. This course is intended for liberal arts students who do not currently plan to major in the biological or health sciences. (3/0/0/0), Arts & Sciences Elective Code: A</p>	<p>BIO-181 Homeostatic Physiology Designed for advanced Health Sciences students. This course emphasizes body systems important to maintaining homeostasis in the human. Nerve and muscle tissue, cardiac, respiratory, fluid-electrolyte and endocrine physiology are addressed. (3/0/0/0), Prereq: BIO-161; Arts & Sciences Elective Code: B</p>
<p>BIO-112 General Biology I 4 Serves as an introductory course for biology, science and health science majors. Principles of cellular biology and elementary biochemistry and energy functions are covered; cell division, DNA/RNA and genetics follow. Evolution theory completes the work of the semester. (3/2/0/0), Prereq: BIO-110 or BIO-168 or BIO-186; Arts & Sciences Elective Code: A; Comments: Besides taking a prerequisite course, proficiency may be demonstrated by a passing score on the Biology Readiness Exam. Contact the Test Center for details.</p>	<p>BIO-161 Basic Anatomy and Physiology 3 Designed for students in the specific health sciences. An overview of human form and function presented in a lecture/laboratory format. (2/2/0/0), Arts & Sciences Elective Code: B</p>	<p>BIO-182 Basic Microbiology 1.5 Includes the structures and function of microorganisms, characteristics of pathogenic and nonpathogenic bacteria, infection processes, specifics of the immune response, and principles and applications of asepsis. (1/1/0/0), Arts & Sciences Elective Code: B</p>
<p>BIO-113 General Biology II 4 Continues the study of General Biology I concentrating on organismal biology and ecology. The evolution and diversity of the Monera, Protista, Fungi, Plantae and Animalia are covered, followed by a comprehensive study of ecology. Additional topics include plant anatomy and physiology, and animal systems including, but not limited to, nervous, circulatory, reproductive and immune systems. (3/2/0/0), Prereq: BIO-112; Arts & Sciences Elective Code: A</p>	<p>BIO-168 Human Anatomy & Physiology I w/Lab 4 Introduces the structure and function of the human body. Organization at the cellular and tissue level and selected organ systems are emphasized. Laboratory activities (which include computer simulations, dissection, and/or human specimens) reinforce current concepts. (3/2/0/0), Prereq: One year of recent high school biology/chemistry with a grade of B or higher strongly recommended, or completion of Basic Biological Concepts or other college-level biology course; Arts & Sciences Elective Code: A</p>	<p>BIO-186 Microbiology 4 Surveys bacteria, viruses and fungi: their growth characteristics, morphology and pathogenicity. The epidemiology and diagnosis of pathogenic bacteria and an introduction to immunology are also included. Laboratory emphasis is on culturing, identification, aseptic technique and basic immunological assays. (3/2/0/0), Prereq: One year of recent high school biology/chemistry with a grade of B or higher is strongly recommended, or completion of Basic Biological Concepts or other college-level biology course; Arts & Sciences Elective Code: A</p>
<p>BIO-124 Botany for Non-Majors 4 Surveys the plant kingdom from bacteria to seed-bearing plants, and studies general anatomy and physiological processes of plants. Initial studies are of plant cells followed by that of vegetative and reproductive organs. Physiological processes of photosynthesis, transpiration, absorption, conduction, respiration, pollination and fertilization are included. (3/2/0/0), Arts &</p>	<p>BIO-173 Human Anatomy & Physiology II w/Lab 4 Continues the study of human organ systems. Laboratory activities and dissection, which includes computer simulations and human specimens, correspond to structures and functions investigated. (3/2/0/0), Prereq: BIO-168; Arts & Sciences Elective Code: A</p>	<p>BIO-189 Microbes and Society 3 Explores microorganisms and how they have influenced human affairs and the environment. Through lectures, assigned readings, educational films, slides, tapes and discussions students explore the power of selected microorganisms, how they influenced history, demography, fashion, the arts, the economy and, of course, individual lives. (3/0/0/0), Arts & Sciences Elective Code: A</p>
<p>BIO-124 Botany for Non-Majors 4 Surveys the plant kingdom from bacteria to seed-bearing plants, and studies general anatomy and physiological processes of plants. Initial studies are of plant cells followed by that of vegetative and reproductive organs. Physiological processes of photosynthesis, transpiration, absorption, conduction, respiration, pollination and fertilization are included. (3/2/0/0), Arts &</p>	<p>BIO-177 Human Anatomy 4 Covers the gross structure and function of human body systems. Focuses on function as it relates to structure through class and laboratory activities. Laboratory experiences include cadaver study, human specimens, dissection and interactive group work. (3/2/0/0), Arts & Sciences Elective Code: A; Comments: Recommend BIO-110 or recent high school science class with a grade of B</p>	<p>BIO-190 Introductory Biotechnology 3 Explores biotechnology and its impact on science and society. Includes basic biological principles, biotech product development, agricultural and medical applications of biotechnology and potential careers. Intended for liberal arts students interested in biotechnology and those interested in the Biotechnology AAS degree. (3/0/0/0), Arts & Sciences Elective Code: A</p>

Course Descriptions

BIO-195 Human Evolution 3

Considers biological evaluations and applications to the history of the human species. Hypotheses and theories concerning the origins of the earth, life, levels of life, the human species and races are examined. Topics include primate classification and relationships, human evolution, anthropological and archeological techniques, the evolution of prehistoric culture, and human migration into North America. Concept-building subject areas include genetic, evolution and paleontology principles. (3/0/0/0), Arts & Sciences Elective Code: A

BIO-249 Biotechnology Internship 3

Provides practical experience in the field of biotechnology. Students who have completed most or all of their course work in the biotechnology program are given the opportunity to acquire work-related skills through a cooperative effort with local biotechnology companies. (0/0/0/12), Prereq: BIO-147, CHM-175; Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

BIO-400 Lab Methodology 3

Emphasizes basic laboratory techniques commonly used in the biotechnology field. Includes properly collecting data, making laboratory measurements, preparing solutions and using laboratory instruments. Covers quality control and assurance, and biosafety issues such as bloodborne pathogen training and interpretation of MSDS literature. Lab included. (1/4/0/0), Arts & Sciences Elective Code: B

BIO-410 Molecular Biology Techniques I 4

Introduces modern molecular biology techniques utilizing nucleic acids (DNA and RNA). Includes nucleic acid purification, quantitation, cloning and restriction enzyme digests. Advanced techniques include Southern and Northern analysis, polymerase chain reaction (PCR), real-time PCR and DNA sequencing. Stresses proficiency in techniques and proper analysis of results. Lab included. (1/6/0/0), Arts & Sciences Elective Code: B

BIO-420 Molecular Biology Techniques II 3

Introduces modern molecular techniques utilizing biomolecules, emphasizing proteins. Explores basic techniques in protein expression, protein purification, and protein analysis including Western blot analysis. Includes complex techniques relating to biomolecule separation. These methods include a variety of chromatographic methods including: paper, thin layer, gel permeation, gas and high performance liquid chromatography. Students interpret chromatographic results and practice documentation and reporting skills. Lab included. (1/6/0/0), Prereq: BIO-410; Arts & Sciences Elective Code: B; Comments:

BIO-430 Molecular Genetics 3

Introduces the fundamental concepts of genetics. Focuses primarily on the modern discoveries of molecular biology and their applications in today's world; however, basic principles of classical (Mendelian) genetics are also discussed. Topics include DNA structure and analysis, DNA replication, transcription, translation, cell cycle regulation with regard to cancer, recombinant DNA technology, genomics, and proteomics. (3/0/0/0), Coreq: BIO-410; Arts & Sciences Elective Code: B; Comments: Lab not included. Students apply lab skills in Molecular Techniques I and Molecular Techniques II.

BIO-450 Basic Bioinformatics 3

Introduces bioinformatics concepts and practice. Includes biological databases, sequence alignment, gene and protein structure prediction, molecular phylogenetics, genomics and proteomics. Emphasizes practical experience with bioinformatics tools, development of basic skills in the collection and presentation of bioinformatics data, as well as basic programming in a scripting language. (3/0/0/0), Prereq: BIO-190; Coreq: BIO-410; Arts & Sciences Elective Code: B

BIO-500 Biological Agents of Terrorism 2

Addresses the potential for release, expected epidemiology/etiology, detection, response protocols and potential outcomes of a major biological event. Information presented is also applicable to accidental and naturally-occurring major events. (2/0/0/0); Arts & Sciences Elective Code: A; Comments: One year of high school biology/chemistry or BIO-186 Microbiology

BIO-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. Course may be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

BIO-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (0/2/0/0), Prereq: BIO-104 or BIO-112 or BIO-113 or BIO-168 or BIO-173 or BIO-186; Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

BUS: BUSINESS

BUS-102 Introduction to Business 3

Focuses on American and global business and introduces the student to each primary facet of operating a business. This course will help the student understand economic, social and political influences that affect business success. (3/0/0/0), Arts & Sciences Elective Code: A

BUS-146 Small Business Planning Strategies 3

Learn strategies for small business through the development of a business plan and studying successful small businesses. This course incorporates finance, marketing, sales, organizational structure, and strategic management and decision making. (3/0/0/0), Prereq: MGT-300, MKT-297, ACC-500; Arts & Sciences Elective Code: B

BUS-151 Introduction to E-Commerce 3

Introduces the infrastructure and components necessary for a successful e-commerce Web site, including design, payment system, security, legal and privacy issues. Covers business concepts related to e-commerce, such as how to market and evaluate the success of a Web site. (3/0/0/0), Arts & Sciences Elective Code: A

BUS-161 Human Relations 3

Explores the psychological principles of human behavior, helping students understand themselves and others in the workplace. This course is adapted to students' needs and interests depending on their overall degree programs. (3/0/0/0), Arts & Sciences Elective Code: B

BUS-178 How to Deliver Winning Presentations 1

How to organize and present public speaking topics. Participants learn to use visual aids, outlines and agendas to complement their presentations. (1/0/0/0), Arts & Sciences Elective Code: B

BUS-185 Business Law I 3

Surveys the general source of law and structure of the American legal system. Students learn basic principles of tort law, administrative law, constitutional law and contract law with an emphasis on business applications. (3/0/0/0), Arts & Sciences Elective Code: A

BUS-190 Professionalism: BPA 1

Develops and recognizes leadership and teamwork utilizing a student professional organization, Business Professionals of America (BPA). Special emphasis is placed on leadership development activities. Students are provided the opportunity to participate in state and national business competitions, earn awards, perform community service and seek local, state and national office. This course may be repeated for credit. (1/0/0/0), Arts & Sciences Elective Code: B

BUS-191 Professionalism: SIFE 1

Develops and recognizes leadership in an organization for student professionals. Emphasizes leadership development activities and teaching the principles of free enterprise to others. Students have the opportunity to participate in state and national business competitions. This course may be repeated for 1 or 2 credit hours. (1/0/0/0), Arts & Sciences Elective Code: B

BUS-192 Professionalism: DECA 1
 Develops and recognizes leadership and teamwork utilizing a student professional organization, Delta Epsilon Chi Association (DECA). Special emphasis is placed on leadership development activities. Students are provided the opportunity to participate in state and national business competitions, earn awards, perform community service and seek local, state and national office. This course may be repeated for credit. (1/0/0/0), Arts & Sciences Elective Code: B

BUS-193 Business Leadership Development 1
 Provides a hands-on approach to solving business problems and teaching business ideas and concepts to the community at large. Students learn to develop marketing plans and other projects to help people achieve their dreams through free enterprise education. (1/0/0/0), Arts & Sciences Elective Code: B

BUS-205 Start-Supervisor Training & Retention Tools 1
 Develops communication skills and teaches students how to apply the basic concepts of supervision. Introduces practical supervision and human relations skills to develop a more productive working relationship with co-workers and employees. Students participate in self-assessment instruments to enhance personal perspective and supervisory methods. (1/0/0/0), Arts & Sciences Elective Code: B

BUS-220 Introduction to International Business 3
 Provides students with an overview of the concepts of international business. Students acquire an awareness of the effects of monetary exchange, geography, Foreign Credit Insurance Corporation, trade duties and restrictions, sociological and political problems, and other areas of involvement as they affect international business. (3/0/0/0), Arts & Sciences Elective Code: A

BUS-223 Perspectives in International Studies 3
 Explores comparative differences between the student's country and another country with emphasis in a discipline of study. Topics include history, geography, culture, food, language and discipline-specific topics. Reviews international travel guidelines. Includes a study tour with additional fees for travel. (3/0/0/0), Arts & Sciences Elective Code: B

BUS-290 Employment Search and Workplace Success 1
 Provides students with an understanding of the job-seeking process including resumes and interviews. (1/0/0/0), Arts & Sciences Elective Code: B

BUS-908 Cooperative Education 1
 For arts and sciences students: Offers a learning experience in a structured work situation related

to a student's major academic interest. May be repeated for credit. (0/0/0/4), Arts & Sciences Elective Code: A

BUS-924 Honors Project 1
 Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

BUS-928 Independent Study 1
 Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

BUS-932 Internship 0.5-4
 Provides an opportunity to receive experience through on-the-job training in an approved business establishment. Valuable learning experiences are structured by the program coordinator and the training sponsor. (0/0/0/2-16), Arts & Sciences Elective Code: A

BUS-949 Special Topics 1-3
 Offers a learning experience in conjunction with a structured work situation. Instruction and readings relate to and supplement the particular job experience. (0/0/0/4-12), Coreq: BUS-908; Arts & Sciences Elective Code: A

CAD: COMPUTER AIDED DRAFTING

CAD-105 CAD I 2
 Provides instruction in entry-level CAD (computer-aided design) skills. Students learn basic commands, CAD hardware and applications, and complete 2-D drawings with AutoCAD on IBM computers. Students should be familiar with keyboards. (1/2/0/0), Prereq: CSC-110 or IND-155; Arts & Sciences Elective Code: B; Comments: Drafting, mathematics or practical blueprint reading experience required

CAD-106 CAD II 3
 Provides advanced instruction in CAD (computer-aided design). Students learn to use complex commands, animation, 3-D drawing, interface CAD with other programs, modify menus, write simple programs, and set up CAD stations with AutoCAD on IBM computers. (1/4/0/0), Prereq: CAD-105; Arts & Sciences Elective Code: B; Comments: Previous AutoCAD experience required

CAD-140 Parametric Solid Modeling 3
 Provides parametric 3-D solid modeling experience using industry-standard software. Covers modeling operations including creating extrusions, cuts, holes, sweeps, blends and revolutions. Basic operations for creating drawings and assemblies are also covered. The software platform utilized shall be Inventor. (2/2/0/0), Prereq: CAD-105; Arts & Sciences Elective Code: B

CAD-141 Parametric Solid Modeling II 3
 Provides students experience with parametric 3-D solid modeling using industry standard software. Students learn modeling operations including creating extrusions, cuts, holes, sweeps, blends and revolutions. Basic operations for creating drawings and assemblies are also covered. The software platform utilized shall be Pro E. (2/2/0/0), Prereq: IND-155 or CSC-110; Arts & Sciences Elective Code: B

CAD-200 Computer Aided Design SoftPlan 3
 Applies the basic skills learned in CAD I to applied architectural projects. Focuses on drawing, file management, organization of architectural information, attention to detail, converting sketches to CAD drawings and problem-solving. Emphasizes proper use of basic CAD skills. (3/0/0/0), Prereq: ARC-112, IND-155; Arts & Sciences Elective Code: B

CAD-202 Computer Aided Design Residential 3
 Provides guided, step-by-step instruction on incorporating CAD into a complete set of commercial working drawings. Emphasizes the proper use of basic and advanced CAD skills, organization of information to generate CAD drawings, and interpretation of hand drawings to CAD. The entire class works through all the steps to a final product. (3/0/0/0), Prereq: CAD-105, CAD-200; Arts & Sciences Elective Code: B

CAD-204 Computer Aided Design Commercial 6
 Explores further the processes involved in generating a complete set of commercial working drawings using computer-aided design. Explores correct computer usage, code research, blueprint redline and revision, and appropriate graphic representation. Teamwork is also emphasized. (2/8/0/0), Prereq: CAD-202; Arts & Sciences Elective Code: B

CAD-206 Computer Aided Design Project 6
 Enables the student to develop a set of working drawings on CAD for a commercial project located on the Kirkwood campus. Focuses on correct computer usage, code research, blueprint redline and revision, and appropriate graphic representation. Teamwork is also emphasized. (2/8/0/0), Prereq: CAD-204; Arts & Sciences Elective Code: B

Course Descriptions

CAD-230 Geometric Dimensioning and Tolerancing 2

Introduces the special symbols used on mechanical drawings. Geometric dimensioning and tolerancing is a means of specifying engineering design and drawing requirements with respect to actual function and relationship of part features. It is a technique that ensures the most economical and effective production of these features for fabrication and inspection. (1/2/0/0), Prereq: DRF-142, DRF-143; Arts & Sciences Elective Code: B

CAD-805 CAD Projects 1-3

Provides for individualized learning under guidance of an appropriate instructor. Application of advanced CAD techniques to a project relative to the student's specific career or field of study. (0/2/0/0), Prereq: CAD-105, CAD-106; Arts & Sciences Elective Code: B

CAD-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

CAD-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

CHM: CHEMISTRY

CHM-110 Introduction to Chemistry 3

Introduces chemistry to those with little or no previous background in chemistry and is preparatory for further course work in chemistry including Intro to Organic & Biochemistry for Nursing students. The course includes a study of chemical structure and bonding, measurements, periodic table, nuclear chemistry weight/volume relationships in chemical reactions, and solution chemistry. (3/0/0/0), Arts & Sciences Elective Code: A; Comments: The lab is optional.

CHM-111 Introduction to Chemistry Laboratory 1

Laboratory to accompany CHM-110. (0/2/0/0), Coreq: CHM-110; Arts & Sciences Elective Code: A

CHM-132 Introduction to Organic and Biochemistry 4

Introduces structure, nomenclature and reactions in organic chemistry as well as the study of life processes including carbohydrate, protein, lipid, nucleic acid metabolism and the interrelationships involved. (3/2/0/0), Prereq: CHM-110; Arts & Sciences Elective Code: A; Comments: One year of high school chemistry recommended

CHM-165 General Chemistry I 4

Studies the basic principles of inorganic chemistry with emphasis on such concepts as measurements and problem solving, chemical reactions and equations, stoichiometry, atomic structure and nuclear chemistry, periodicity, chemical bonding, kinetic molecular theory and gas laws, and the structure and properties of matter. (3/2/0/0), Prereq: CHM-110, MAT-102 or MAT-138; Arts & Sciences Elective Code: A

CHM-175 General Chemistry II 4

Studies colligative properties along with thermodynamics and kinetics, chemical equilibrium, electrochemistry, acids, bases and complex ions, and an introduction to organic chemistry. (3/2/0/0), Prereq: CHM-165; Arts & Sciences Elective Code: A

CHM-262 Organic Chemistry I 4.5

Introduces the theory and practice of organic chemistry with emphasis on the chemistry of functional groups. Areas stressed are nomenclature, stereoisomerism, chemical bonding, reaction mechanisms, the characterization of hydrocarbons, alkyl halides and alcohols. The laboratory stresses development of appropriate organic chemistry separation, isolation and synthetic techniques. (3/3/0/0), Prereq: CHM-175; Arts & Sciences Elective Code: A

CHM-272 Organic Chemistry II 4.5

Continues the study of ethers, aldehydes, ketones, carboxylic acids and their derivatives, amines and biologically important fats, proteins and carbohydrates. Stresses qualitative organic analysis and spectroscopic methods. (3/3/0/0), Prereq: CHM-262; Arts & Sciences Elective Code: A

CHM-280 Quantitative Analysis 4

Introduces methods of chemical analysis stressing gravimetric, volumetric, spectrophotometric and selected electroanalytical methods. Emphasis is placed on fundamentals of measurement, treatment of data and error analysis. (2/4/0/0), Prereq: CHM-175; Arts & Sciences Elective Code: A

CHM-500 Chemical Agents of Terrorism 2

Addresses the chemistry, environmental effects, physiological effects and potential outcomes of a major chemical event from an all-hazards approach to homeland security. Information presented is also applicable to accidental and naturally-occurring major events. (2/0/0/0); Arts & Sciences Elective Code: A; Comments: One year of high school chemistry

CHM-510 Monitoring for and Detection of Terrorist Agents 2

Addresses the applicability of current technology for the detection of biological, chemical and

radiological agents following a major homeland security event. Information presented is also applicable to accidental and naturally-occurring major events. (2/0/0/0); Arts & Sciences Elective Code: A; Comments: One year each of high school biology and chemistry

CHM-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean.

CHM-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (0/2/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean.

CIS: COMPUTER INFORMATION SYSTEMS

CIS-111 Business Applications 2

Presents a general exposure to accounting information systems. Topics include the main business functional areas such as general ledger, receivables, payables, payroll, inventory, etc. (2/0/0/0), Arts & Sciences Elective Code: B

CIS-126 Introduction to Programming Logic With Language 4

Introduces beginning programming students to basic computer programming concepts. Covers principles of program logic and design using both procedural and object-oriented techniques. Students will design, code and test computer programs using well-structured programming logic. (3/2/0/0), Arts & Sciences Elective Code: A

CIS-128 Programming Concepts 3

Introduces computer programming, including the technical aspects of designing and coding computer programs to accomplish business objectives, and how this technology fits into companies' overall information systems needs. Explores application software development and explains basic programming logic structures, facilitating successful designing, coding and testing. (2/2/0/0), Arts & Sciences Elective Code: B

CIS-135 Microcomputer Operating Systems 3

Introduces and familiarizes students with a variety of PC-based operating systems. The systems include DOS, Windows, UNIX and LINUX. The respective strengths of the operating environments are reviewed, along with the approaches used in providing systems management and software development support capabilities. (3/0/0/0), Arts & Sciences Elective Code: B

<p>CIS-153 Data Structures 4 Extends skills and competencies acquired in Intro to C. The C++ language is introduced as an enhanced and extended version of C. Structures and arrays are utilized to implement abstract data types in conjunction with a variety of model problems. This will be used as a basis for introducing classes, class construction and object-oriented programming. (3/2/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: A</p>	<p>servlet, and database access through JDBC or an O-R mapping framework such as Hibernate. Project specification is coordinated with and approved by a faculty advisor. Requirements include a research component using current technology. (2/0/0/0), Prereq: CIS-180; Arts & Sciences Elective Code: B</p>	<p>topics include T-SQL, joining tables, creating and altering SQL server tables, replication, OLAP, creating and testing stored procedures, triggers security, and tuning. (3/2/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: A</p>
<p>CIS-168 Introduction to C 4 Covers developing programs in the C programming language. Topics include: lifetime and scope of variables; operators, R-values and L-values; arrays and pointers; complex data structures and file processing; use of library functions in the Microsoft software development environment. (3/2/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: B</p>	<p>CIS-190 Internet Programming I 4 Introduces the student to basic Web page development tools, including HTML markup language and JavaScript scripting language. The student uses text editors to build Web pages that include tables, forms, frames and lists. Students learn to use scripting language to add dynamic functionality and user interaction to a Web page. (3/2/0/0), Prereq: CIS-126 or CIS-128; Arts & Sciences Elective Code: B</p>	<p>CIS-349 Database Management Using DB2- Mainframe 4 Covers all aspects of database management, utilizing IBM's Data Base 2 including physical and logical database components, physical and logical database design, Structured Query Language for data definition, data security, and database manipulation. Most aspects of database administration, including database design, database definition, DB2 utilities, and performance tuning are discussed. Also, DB2 application development is covered, using COBOL, CICS, DB2 and SQL. (3/2/0/0), Prereq: CIS-413; Arts & Sciences Elective Code: B</p>
<p>CIS-169 C# Programming 3 Introduces Microsoft's new object-oriented programming language and newest programming toolset, Visual Studio 2005. Focuses on developing dynamic, customized desktop applications. (2/2/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: B</p>	<p>CIS-192 Internet Programming II 4 Develops Web-server scripting for dynamic Web page production. Covers Active Server Pages (ASP v3), XML and ASP.NET technologies. Builds on database design and SQL syntax skills acquired in prerequisite courses. Knowledge of VB.NET is necessary. (3/2/0/0), Prereq: CIS-190, CIS-333, CIS-609; Arts & Sciences Elective Code: B</p>	<p>CIS-403 COBOL I 4 Presents ANSI COBOL programming language fundamentals and coding techniques. This course includes the writing of COBOL programs using structured techniques. (3/2/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: B</p>
<p>CIS-172 Java 4 Provides an introduction to object-oriented program and design concepts using the Java programming language. Intended for students without previous object-oriented programming experience. The course covers methods, classes and objects with emphasis on modularity and code reusability. Students code, test, and debug simple applets and applications illustrating understanding of conditionals, iteration, array handling, event processing, string handling, and input-output. (3/2/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: A</p>	<p>CIS-207 Fundamentals of Web Programming 3 Presents hypertext markup language principles used in creating well-designed Web pages. Students also use JavaScript and DHTML on an introductory level. (2/2/0/0), Prereq: CSC-110; Arts & Sciences Elective Code: B</p>	<p>CIS-413 COBOL II 4 Presents ANSI COBOL programming language fundamentals and coding techniques. Includes writing structured COBOL, file editing, control breaks, sorting, sequential master file update. (3/2/0/0), Prereq: CIS-403; Arts & Sciences Elective Code: B</p>
<p>CIS-176 Java II 4 Continues Java. This course covers such topics as advanced GUI, exception handling, multithreading, multimedia, files and streams, networking, and data structures. (3/2/0/0), Prereq: CIS-172, CIS-333; Arts & Sciences Elective Code: A</p>	<p>CIS-307 Introduction to Databases 3 Introduces students to database concepts and different software applications used in database management. Covers the design of tables and forms for data entry in a relational database management system. Students maintain the data and design inquiries to produce information for decision making, data analysis and integration with other software applications. Hours: (2/2/0/0), Prereq: CIS-110; Arts & Sciences Elective Code: A</p>	<p>CIS-463 CICS 4 Covers data communication facilities under CICS. Students write and test online programs. (3/2/0/0), Prereq: CIS-413; Arts & Sciences Elective Code: B</p>
<p>CIS-180 J2EE Servlets and JSP 4 Provides practical application of server-side development using servlets and Java server pages (JSP). This course is intended for developers already familiar with the Java programming language. (3/2/0/0), Prereq: CIS-176; Arts & Sciences Elective Code: B</p>	<p>CIS-325 Data Management 4 Presents concepts and techniques of the various data access methods used on the mainframe. Storage methods presented include Sequential, Direct, PDS and Virtual Storage Access Methods (VSAM). Topics include VSAM file concepts, catalog concepts, JCL for VSAM, Access Methods Services, performance considerations, recovery facilities, security and application programming in COBOL using VSAM files. This includes file creation, retrieval, deletion, dumps, sequential and random master file updates, variable length records and alternate indexes. (3/2/0/0), Prereq: CIS-413; Arts & Sciences Elective Code: B</p>	<p>CIS-480 Intro to Mainframe Programming 2 Covers basic operation of mainframe terminals and emulation software. Intended to make students self-sufficient in navigating the TSO environment, and in preparing programs and test data. Provides a basic introduction to JCL and COBOL. (2/0/0/0), Arts & Sciences Elective Code: B</p>
<p>CIS-188 J2EE Special Projects 2 Students design, code, test and deploy an n-tier architected Web application including JSP,</p>	<p>CIS-333 Database and SQL 4 Covers programming for the SQL server relational database environment. Some of the</p>	<p>CIS-483 Application Programming Projects- Mainframe 4 Offers supervised work experience at various data processing tasks that serve as learning tools as the tasks are completed. These tasks may be done within a real or simulated business organization. The student writes a complete system that utilizes all the resources of the mainframe and draws upon the knowledge gained in all previous classes. (1/6/0/0), Prereq: CIS-463; Arts & Sciences Elective Code: B</p>

Course Descriptions

CIS-504 Structured Systems Analysis 3

Covers the foundational aspects of system analysis and design, and the role of the systems analyst in a business information systems environment. Teaches the tools, techniques and methodologies used to analyze and design information systems and produce technical solutions for companies' information technology needs. (3/0/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: B

CIS-570 Introduction to iSeries eServer 2

An overview of IBM application system/400 architecture and facilities. Topics include operating system concepts and introduction to control language, menu structure, system displays, creation and maintenance of logical and physical files, and data base organization and access. (2/0/0/0), Arts & Sciences Elective Code: B

CIS-609 Visual Basic.Net 4

Introduces the Microsoft .NET architecture, the Visual Studio IDE and object-oriented programming with VB.NET. Students build stand-alone projects with an emphasis on graphical interfaces using WinForm components. Addresses the use of OOD/OOP desktop applications as front-ends for database access via ADO. (3/2/0/0), Prereq: CIS-126; Arts & Sciences Elective Code: A

CIS-610 Advanced Visual Basic.Net 4

Extends students' knowledge of Visual Basic.NET and its use in database-backed, Web-centric applications. ADO.NET, ASP.NET, Web Services and Web Forms technologies are covered, in particular their roles in building n-tier applications. (3/2/0/0), Prereq: CIS-609, CIS-333; Arts & Sciences Elective Code: B

CIS-802 PC Programming Projects 4

Allows the students to apply the knowledge learned in a number of programming courses, including C, Visual Basic, C++ and Java. This course also requires application of knowledge gained from programming design and systems analysis classes in the analysis, design, scheduling and implementation of a complete systems development effort. This course should be taken in the student's final semester. (3/2/0/0), Arts & Sciences Elective Code: B

CIS-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

CIS-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance

of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

CLS: CULTURAL STUDIES

CLS-125 Language and Society 3

Introduces basic sociolinguistic principles. Practices methods for discovering and describing socially significant language behavior. Explores correlations between social and linguistic behavior. Analyzes the educational and political implications of sociolinguistic findings. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-140 Understanding Cultures: The Mideast 3

Examines in a cross-cultural context the politics, economics, history, ethnic groups, religions and cultures of the Mideast from Morocco to Afghanistan and Pakistan. Includes study of all aspects of the Arab/Israeli conflict. Students also acquire an understanding of nationalism, tribalism and energy issues in a global context. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-151 Understanding Cultures: Latin America 3

Examines human spatial and cultural behavior in Latin America by exploring political, economic, religious and social institutions. Theoretical readings are balanced with case studies to enable students to explore theoretical perspectives in a cross-cultural context. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-159 Understanding Cultures: Indigenous Central America 3

Explores the ethnographic, political, economic and historical contexts of contemporary indigenous life in Central America, with particular emphasis on the indigenous people of Guatemala and Mexico. While contemporary culture is the main focus of the course, students also explore the themes of continuity and change from pre-Hispanic times to the present. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-162 Understanding Cultures: Pacific Societies 3

Examines human spatial and cultural behavior in Pacific Island countries by exploring political, economic, religious and social institutions. Theoretical readings are balanced with case studies to enable students to explore theoretical perspectives in a cross-cultural context. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-165 Understanding Cultures: Modern Japan 3

Begins with a survey of Japanese history and culture to the Meiji Restoration of 1868. Emphasis is on the borrowing and blending of Chinese culture with Japanese culture, dating back to the Tang dynasty in China. Students

focus on the Japanese adaptation to the challenges of modernization, with emphasis on accommodating industry and modern systems of government within a traditional Japanese cultural system. Issues include the relationship with China, World War II and the economic expansion of Japan from 1945 to the present. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-167 Understanding Cultures: Modern China 3

Focuses on the 19th and 20th centuries, a period of confusion, violence and chaos, during which China has undergone a dramatic revolution. Compares how ancient China struggled to adopt the most useful practices of the western enlightenment while keeping its unique identity. Explores this struggle by examining geography, philosophy of Confucianism, and religious and political practices. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-171 Understanding Cultures: Sub-Saharan Africa 3

Examines the geography, history, economics, social relations, health issues, urbanization, religion and literature of Sub-Saharan Africa. Considers the development of Africa prior to colonization, the impact of colonization, issues facing Africans since independence, and contemporary challenges and opportunities. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-180 American Pluralism 3

Examines the pluralistic nature of American communities through a critical analysis of the history, literature and culture of one or more of the following cultural groups: African Americans, Asian Americans, European Americans, Hispanic Americans or Native Americans. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-190 Culture and Technology 3

Introduces students to the relationships between technology and culture through an interdisciplinary study of the humanities. The course examines these relationships through works in the humanities, for example art, literature, music, philosophy, religion, history, film and anthropology. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-192 Communication and Culture 3

Examines the implications and impacts of various communication media, especially modern ones, on human culture and society. Using tools of historical and cultural studies, as well as the interpretive methods of the humanities, students will explore, for example, how new communications media affect interpersonal relations, self concept, democracy, experiences of space/time and human creativity. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-200 International Study 1-12
Provides students with the opportunity to pursue studies in such areas as history, art, politics, music, literature, foreign language and occupational program areas. (1-12/0/0/0), Arts & Sciences Elective Code: A

CLS-211 Cultures in Transition: Central Europe 3
Introduces participants to Eastern Europe, particularly to the Czech Republic and Slovakia. Analyzes the geographic setting, environmental problems, the livelihoods and the people of the nation. Provides an overview for students just beginning to study the region. (3/0/0/0), Arts & Sciences Elective Code: A

CLS-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project learning contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

CLS-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

COM: COMMUNICATION

COM-222 Communication for Health Care Professionals 3
Introduces the theories and skills used to analyze and understand communication variables affecting human relationships, such as personal perception, feedback, idea development and nonverbal cues. Builds competencies and skills relevant to various interpersonal contexts within health care settings. (3/0/0/0), Arts & Sciences Elective Code: B

COM-710 Basic Communications 3
Provides an opportunity for students to improve English language skills. The principles of English grammar, punctuation and style are studied. Emphasis is placed on correct grammar usage, spelling, vocabulary and proofreading/editing skills for the office professional. (3/0/0/0), Prereq: ENG-013; Arts & Sciences Elective Code: B

COM-723 Workplace Communications 3
Emphasizes practical application of theories and principles to develop writing skills essential to encounters in contexts of occupational communications. Includes writing business letters, resumes, memos, instructional materials and reports, and using visual aids, taught through a blend of formal lectures and student participation. Offered for students enrolled in Applied Science and Technology programs. (3/0/0/0), Arts & Sciences Elective Code: B

COM-744 Oral Communication in the Workplace 3
Emphasizes the practical application of theories and principles to the development of presentation skills essential to communication encounters in contexts of occupational communications. Helps students become confident presenters by focusing on the preparation and delivery of various workplace presentations. Offered for students in Applied Science and Technology programs. (3/0/0/0), Arts & Sciences Elective Code: B

COM-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

COM-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

COM-945 Selected Topics 1-3
Topic selection will include; e.g., communication apprehension, video performance practice, gender communication, family communication, creative problem solving, nonverbal communication, persuasion and propaganda, intercultural communication, listening skills, dysfunctional communication patterns and rhetorical analysis. (1-3/0/0/0), Arts & Sciences Elective Code: A

CON: CONSTRUCTION

CON-108 Construction Safety 1
Provides instruction on construction industry safety and health topics for entry-level workers. (1/0/0/0), Arts & Sciences Elective Code: B

CON-116 Architectural Plans and Specs 2
Introduces the skills and methods for understanding and interpreting construction drawings and technical specifications for residential and commercial buildings. (1/2/0/0), Arts & Sciences Elective Code: B

CON-134 Surveying and Site Layout 2
Provides class and laboratory activities to gain knowledge in the use of conventional and laser instruments, building site layout, site investigation, leveling, topographic maps and route surveying. (1/2/0/0), Arts & Sciences Elective Code: B

CON-190 Construction Skills Lab 2
Provides introductory lab experience in tool and equipment use, basic construction procedures and safety for those with little or

no construction experience. Includes footing layout and construction, floor systems, basic wall construction, rail framing layout and calculations, electrical layout and theory, heating and air handling basics, and plumbing systems. (1/2/0/0), Arts & Sciences Elective Code: B

CON-192 Construction Practices III 3
Provides advanced construction work experience in lab and field work. (0/6/0/0), Prereq: CON-191; Arts & Sciences Elective Code: B

CON-272 Construction Practices 3
Provides introductory lab experience in tool and equipment use, and basic construction procedures. Focuses on safety and foundational elements in a variety of systems. Hands-on lab activities include foundations, floor and wall framing, concrete, masonry, plumbing, HVAC and electrical. (1/4/0/0), Arts & Sciences Elective Code: B

CON-273 Carpentry Lab I 6
Introduces the tools and terminology used in basic framing and gives students hands-on framing instruction. Focuses on frame walls, windows, doors and other standard structures. Emphasizes correct materials and methods. (3/6/0/0), Arts & Sciences Elective Code: B

CON-274 Carpentry Lab II 8
Continues Carpentry Lab I. Explores the uses of modern construction materials, correct tool usage, accuracy and techniques in a hands-on lab. Continues strengthening basic carpentry skills, then expands to incorporate layout, framing, concrete form building, complex roof structures, stair building, metal stud framing and basic interior trim. (3/10/0/0), Prereq: CON-273; Arts & Sciences Elective Code: B

CON-275 Stone Concepts 2
Provides introductory hands-on skills in the tools, preparation and application of the most commonly used stone products in this area, including Anamosa and Indiana Limestone as well as a variety of man-made stone and rubble. Students develop skills in handling, forming and laying all types of stone and in proper patterns. Included in this course is a historical overview of the ancient art of stone masonry and field trips to stone mines. (1/2/0/0), Arts & Sciences Elective Code: B

CON-311 Building Construction Systems I 3
Introduces the materials, methods and terminology used in modern construction. Focuses on general knowledge in a broad range of systems and the coordination requirements between those systems. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: A classroom-based discussion course that includes field trips to construction sites

CON-312 Building Construction Systems II 2
Continues the study of materials, methods and

Course Descriptions

terminology used in modern construction. Emphasizes coordinating systems and performing quality control inspections. (2/0/0/0), Arts & Sciences Elective Code: B; Comments: A classroom-based discussion course that includes field trips to construction sites

CON-320 Construction Computer Applications 2
Provides an overview of software used in construction, particularly software used for estimating, scheduling and job costing. (1/2/0/0), Arts & Sciences Elective Code: A

CON-321 Residential Estimating 2
Introduces the basic principles and skills necessary to develop estimates for residential projects. Concentrates on calculating material and labor quantities. Introduces techniques for pricing. (1/2/0/0), Arts & Sciences Elective Code: A

CON-323 Light Commercial Estimating 3
Introduces the basic principles and skills needed to develop a complete estimate for light commercial construction projects. Uses spreadsheets and interactive estimating software. (3/0/0/0), Prereq: CON-321; Arts & Sciences Elective Code: A

CON-324 Commercial Estimating 3
Introduces the basic principles and skills needed to develop a complete estimate for commercial construction projects. Uses spreadsheets and interactive estimating software. (3/0/0/0), Prereq: CON-321; Arts & Sciences Elective Code: A

CON-328 Construction Law 3
Introduces construction law and construction contract documents and their legal consequences on the owner, contractor, A/E and subcontractor with an emphasis on the AIA documents. (3/0/0/0), Arts & Sciences Elective Code: A

CON-329 Construction Management 3
Introduces the functions of construction management related to financial management, labor relations, material and equipment control, business methods, and risk management. (3/0/0/0), Arts & Sciences Elective Code: A

CON-330 Construction Management Applications 3
Provides the student an opportunity to develop a solution to a class experience. A contract between the instructor and student is developed to outline assignments to be completed. (0/6/0/0), Arts & Sciences Elective Code: A

CON-331 Construction Materials Science 2
Provides class and laboratory activities to understand the forces and stresses acting on materials. Introduces methods for determining

the proper sizing and quality for wood, steel and concrete components in a structure. (2/0/0/0), Arts & Sciences Elective Code: B; Comments: All first-year courses or permission of instructor

CON-335 Construction Planning and Scheduling 2
Covers class and laboratory activities to control the flow of materials, manpower and equipment on a construction project, with a major emphasis on CPM schedule preparation and monitoring. (2/0/0/0), Arts & Sciences Elective Code: A; Comments: All first-year courses or permission of instructor

CON-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

CON-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

CON-932 Internship 1-6
Provides full-time work in an approved, construction-related position that includes instructor visitations/evaluations and employer evaluations of performance. Students gain experience in planning and production monitoring. (0/0/0/4), Arts & Sciences Elective Code: B; Comments: All first-year courses or permission of instructor

CRJ: CRIMINAL JUSTICE

CRJ-100 Introduction to Criminal Justice 3
Provides an overview of the American criminal justice system and examines the process of justice administration through the agencies of law enforcement, courts and corrections. (3/0/0/0), Arts & Sciences Elective Code: A

CRJ-101 Ethics in Criminal Justice 3
Examines the ethical considerations facing the criminal justice practitioner. Includes determining moral behavior, developing moral and ethical behavior, ethics and law enforcement, ethics and the courts, ethics and corrections, policy and management issues, professionalism, pride and ethics for practitioners. (3/0/0/0), Arts & Sciences Elective Code: A

CRJ-111 Police and Society 3
Examines police as part of society's official

control apparatus. A theory-based course which utilizes a multiple causation model to explain police issues, integrating six core elements: history, role, socialization, culture, function and experience. Students study police history, police role and organization, the making of a police officer, police behavior, stress, the delivery of effective police services and the future of law enforcement. (3/0/0/0), Arts & Sciences Elective Code: A

CRJ-112 History of Police in America 3
Traces the development of the police officer and the police organization from the colonial period to modern times. Investigates problems encountered during various periods of development of American police agencies. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-120 Introduction to Corrections 3
Examines the history, theories and practices of penal institutions, both adult and juvenile. Additionally explores penal reform in relation to various objectives of modern penology. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-130 Criminal Law 3
Reviews the historical development of criminal law and the resulting philosophy of law that has developed. The law-making process, with the societal and political influences, is examined and discussed. Comparisons of common law with contemporary law are analyzed in an attempt to determine what impact historical events and societal changes have had in bringing about change. (3/0/0/0), Arts & Sciences Elective Code: A

CRJ-133 Constitutional Criminal Procedure 3
Studies the development of fundamental principles in constitutional law, integrating a case-by-case study of United States Supreme Court decisions and a broad examination of the judicial legal processes. Coverage includes the nature of judicial review, powers of the Supreme Court, president, Congress and federalism. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-134 Applications of Criminal Law 3
Examines the Iowa Code as it relates to both the criminal code and the vehicle code. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-136 Correctional Law 3
Explores current statutory and case law pertinent to correctional concepts, facilities and related topics. Examines major legal issues: incarceration, probation, parole, restitution, pardon, restoration of rights and related topics. Students identify and discuss legal issues which directly affect correctional systems and

personnel. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-141 Criminal Investigation 3
Presents the basic principles of investigation, both public and private, including: examination of the scene, collecting physical evidence, interrogations and interviews, sketching a scene, report writing, and basic photography. Special methods of investigating certain crimes are explored, and the function of the crime laboratory discussed. (3/0/0/0), Arts & Sciences Elective Code: A

CRJ-180 Perspectives on Terrorism 1
Introduces the concept of terrorism, methods of preparing for a terrorist attack, and the psychological impact of terrorism. Examines the historical origins of terrorism, ways to prepare and respond, and the psychological impact of terrorism on society. (1/0/0/0), Arts & Sciences Elective Code: A

CRJ-181 Terrorism: Security and Deterrence 1
Introduces the basic concepts of security and deterrence of terrorist acts. Examines relationships and reactions to man-made and natural emergencies. Focuses on the ways the National Incident Management System, emergency action plans, and security, physical and environmental controls are interconnected. (1/0/0/0), Arts & Sciences Elective Code: A

CRJ-200 Criminology 3
Surveys the nature, causes and extent of crime and delinquency; major consideration is given to various explanations from numerous disciplines. (3/0/0/0), Prereq: SOC-110; Arts & Sciences Elective Code: A

CRJ-201 Juvenile Delinquency 3
Analyzes the various components of delinquency: home, school, peer group and community structure. Explores the role of therapeutic and detention centers and the juvenile court, as well as approaches to prevention and treatment. (3/0/0/0), Prereq: SOC-110; Arts & Sciences Elective Code: A

CRJ-202 Cultural Awareness for Criminal Justice Practitioners 3
Expands the student's awareness of both cognitive knowledge and skills necessary to interact effectively with and serve culturally diverse populations. Emphasizes attitudes, competencies, and behavioral issues in interracial and cross-cultural contacts between criminal justice practitioners and a diverse citizenry. Sociological frameworks allow for examination of diversity with respect to race, ethnicity, gender, sexual orientation, poverty, religion, age, disability and language minorities. (3/0/0/0),

Prereq: CRJ-100, SOC-110; Arts & Sciences Elective Code: A

CRJ-212 Community-Oriented Policing 3
Examines the philosophy of community-oriented policing including specific programs and principles. This course explores the police departments' interaction with various segments of the community. (3/0/0/0), Prereq: CRJ-202; Arts & Sciences Elective Code: A; Comments: Permission of program coordinator

CRJ-220 Community-Based Corrections 3
Studies the principles and practice of corrections as applied in the community setting. Includes examination of theories of corrections that apply to the correctional practices of parole and probation. Also explores alternative treatment programs utilized in community halfway houses, alternative jails and outpatient facilities. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-222 Correctional Treatment Methods 3
Examines the history, evolution and development of correctional treatment in the United States and presents an overview of the strategies and various protocols that are used in the rehabilitation and counseling of juvenile and adult criminal offenders who are incarcerated, or assigned to residential facilities through judicial referrals. Institutional and non-institutional programs are reviewed and treatment models discussed. (3/0/0/0), Prereq: CRJ-120; Arts & Sciences Elective Code: A

CRJ-230 Evidence 3
Studies the kinds and degrees of evidence and the rules governing the admissibility of evidence in court. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-244 Traffic Collision Investigation 3
Examines the development, purpose and organization of the vehicle code, supervision and control of traffic, selective enforcement procedures, and accident prevention and investigation. Also examines the purposes and analysis of accident statistics, report writing, and courtroom presentations for prosecution of violators. (3/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

CRJ-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A

CRJ-932 Internship 1
Provides placement in a criminal justice agency in a student capacity. Work experience in an agency under supervision of professionals in the field permits students to learn what career opportunities are offered. (0/0/3/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRJ-946 Seminar 1
Provides an opportunity to discuss internship projects and share the knowledge gained from the experience with others. This is done through written and oral communication and includes journals, diaries and project reports. (1/0/0/0), Prereq: CRJ-100; Arts & Sciences Elective Code: A

CRR: COLLISION REPAIR/ REFINISHING

CRR-338 Introduction to Metalworking 3
Provides the beginning technician with shop safety and general introductory knowledge and procedures used in metalworking. (1/4/0/0), Arts & Sciences Elective Code: B

CRR-342 Metalworking II 4
Continues Metalworking I with students working in the lab on actual autos. Covers most work situations found in auto body repair shops. (0.5/7/0/0), Prereq: CRR-820; Arts & Sciences Elective Code: B

CRR-344 Metalworking III 4
Continues Metalworking II with students working in the lab on actual autos. Covers most work situations found in auto body repair shops. (1/6/0/0), Prereq: CRR-342; Arts & Sciences Elective Code: B

CRR-545 Body Straightening & Painting 7
Emphasizes quality of work and speed of repair. Students learn estimating and total auto rebuilding using frame-straightening equipment. Provides practical application with an emphasis on appearance, completion of work in time schedules, material cost, striping, molding installation and proper procedures without instructor help. (1/12/0/0), Prereq: CRR-344; Arts & Sciences Elective Code: B

CRR-803 Introduction to Refinishing 3
Provides the beginning technician with shop safety, health issues, and general introductory knowledge and procedures used in painting. (1/4/0/0), Arts & Sciences Elective Code: B

CRR-820 Metalworking and Refinishing Practices 3
Covers general body construction along with body alignment and general metal techniques with emphasis on use of body fill material. Provides an overview of glass and trim replacement and also the relationship between

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body and frame components. Introduces spot matching techniques and spraying complete autos. (1/4/0/0), Arts & Sciences Elective Code: B

CRR-830 Metalworking and Refinishing I 3
Continues CRR-820. Lab activities cover general body construction along with body alignment and metal techniques on the use of fill material. Covers an in-depth analysis of glass and trim replacement and the relationship between body and frame components. The course also covers spot painting and matching techniques in addition to spraying complete autos. (1/4/0/0), Arts & Sciences Elective Code: B

CRR-833 Refinishing II 3
Continues Metalworking and Refinishing I with an emphasis on working with actual autos. Students practice additional spot painting and matching techniques as well as spraying complete autos. (0.5/5/0/0), Prereq: CRR-830; Arts & Sciences Elective Code: B

CRR-837 Refinishing III 3
Continues Refinishing II with an emphasis on the finer points of refinishing. Students develop skills in two-tones, tape stripping, blemish troubleshooting, blending, matching, touch-ups and professional quality gun handling. (1/4/0/0), Prereq: CRR-833; Arts & Sciences Elective Code: B

CSC: COMPUTER SCIENCE

CSC-110 Introduction to Computers 3
Familiarizes the student with business, personal and industrial uses of microcomputers. Broad-based overview of microcomputer topics is presented; concepts of storage media, file organization and data representation are also presented. The fundamentals of computer problem solving and programming are discussed. (2/2/0/0), Arts & Sciences Elective Code: A

CSC-111 Introduction to Computers 4
Introduces computers and data processing concepts with practical training on microcomputers. (3/2/0/0), Arts & Sciences Elective Code: A

CSC-142 Computer Science 4
Introduces computer programming including data types, expressions, input/output, control structures, functional and object-oriented programming, and simple data structures. The course emphasizes problem-solving skills through program refinement, documentation and programming style. (4/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

CSC-153 Data Structures 4
Continues the study of program design and construction begun in CSC-142. The course

emphasizes topics in data structures and practice in their specification, design, implementation and use. Topics include container classes, arrays, lists, stacks, queues, trees, graphs, algorithm analysis, object-oriented programming, data abstraction, and searching and sorting techniques. (4/0/0/0), Prereq: CSC-142; Arts & Sciences Elective Code: A

CSC-160 Software Design and Development 4
Building on the foundation of basic programming skills acquired in CSC-142, this course emphasizes the design and development of software systems. Topics include user interface programming, graphics and multimedia, networking and concurrency. Long-term projects provide students with experience developing software over an extended time period. Students also gain a general understanding of computer and system organization. (4/0/0/0), Prereq: CSC-142; Arts & Sciences Elective Code: A

CSC-175 Computer Organization and Assembly Language Programming 4
Emphasizes the organization and operation of computer systems at the assembly-language level. The mapping of statements and constructs in a high-level language onto sequences of machine instructions is studied, as well as the internal representation of simple data types and structures. Programming practice with an assembly language provides practical application of concepts presented in class. (4/0/0/0), Prereq: CSC-142; Arts & Sciences Elective Code: A

CSC-924 Honors Project 1
Allows qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

CSC-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

DAN: DANCE

DAN-110 Fundamentals of Modern Dance 1-5
Introduces basic modern dance technique and choreography. Students practice standard movements, and locomotor patterns are introduced to creative concepts. May be repeated for credit. (0/3/0/0), Arts & Sciences Elective Code: A

DAN-120 Fundamentals of Jazz Dance 1.5
Develops modern jazz dance technique and choreography. Students are introduced to the

history and concepts of the jazz idiom and practice standard and creative jazz movements and locomotor patterns. May be repeated for credit. (0/3/0/0), Arts & Sciences Elective Code: A

DAN-130 Ballet 1.5
Introduces classical ballet technique. Students explore the basic history of ballet. Additionally, students learn the principles and terminology of ballet while striving for a kinesthetic understanding of the art form. May be repeated for credit. (0/3/0/0), Arts & Sciences Elective Code: A

DAN-140 Fundamentals of Tap 1.5
Develops modern tap technique and choreography. Students are introduced to the history and concepts of the tap idiom and practice standard and creative tap movements and locomotor patterns. May be repeated for credit. (0/3/0/0), Arts & Sciences Elective Code: A

DAN-170 Repertoire and Ensemble 1.5
Covers the role a dancer has in the process of making a new choreographic work for the stage. This process involves exploration, group collaboration, and finally interpretation. In addition, the dancers learn to understand the level of commitment and consciousness required of them throughout the rehearsal period. (0/3/0/0), Arts & Sciences Elective Code: A

DAN-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

DAN-928 Independent Study 1.5
Allows students to continue to develop abilities in modern and/or jazz dance technique. May be taken more than once. (0/3/0/0), Prereq: DAN-110 and/or DAN-120; Arts & Sciences Elective Code: A

DEA: DENTAL ASSISTANT

DEA-285 Oral Pathology for Dental Assisting 1
Introduction to the general principles of pathology. Emphasis is on the specifics of disease entities of local and systemic origin to enable interpretation by the dental auxiliary of the medical and dental history with emphasis on specifics of oral pathology. Terminology is a focus, with descriptions of oral lesions and their treatment. (1/0/0/0), Prereq: DEN-120, DEN-130; Arts & Sciences Elective Code: B

<p>DEA-404 Dental Materials 3.5 Introduces students to materials utilized in the dental field. Includes handling and preparation of specific materials. Prepares students for clinical procedures. Combines the science of the basic dental materials with manipulative practice. (2/3/0/0), Prereq: DEA-517, DEN-100, DEN-120; Arts & Sciences Elective Code: B</p>	<p>Learn dental office related functions including: computer operations, telephone, recall systems, resumes, supply inventory, filing, record keeping, financial arrangements, patient accounts, credit and collection, banking, salaries, tax forms, patient correspondence, and legal and ethical conduct. (2/0/0/0), Prereq: DEN-100, DEN-120; Arts & Sciences Elective Code: B</p>	<p>learn to utilize patient assessment techniques and provide oral health information. (1/1/0/0), Coreq: DEN-120, DEN-130; Arts & Sciences Elective Code: B</p>
<p>DEA-517 Dental Assisting I 3.5 Learn basic principles of dental assisting including fundamental chair-side concepts and techniques, team delivery systems, and intra-oral skills. (2/3/0/0), Coreq: DEA-404, DEN-100, DEN-120, DEN-130, HSC-107, HSC-210; Arts & Sciences Elective Code: B</p>	<p>DEA-924 Honors Project 1 Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean</p>	<p>DEN-220 Dental Nutrition 1 Study of the role of diet upon oral structures and application of the role of dietary analysis to the treatment plan of a dental patient. Emphasis is placed on analysis of the complete diet and preventive recommendations. (1/0/0/0), Prereq: DEN-120, DEN-130; Coreq: DEN-200; Arts & Sciences Elective Code: B</p>
<p>DEA-518 Dental Assisting II 1.5 Learn principles of dental assisting with focus on intra-oral skill obtainment, sterilization processes and pharmacology. (1/1/0/0), Prereq: DEA-517; Coreq: DEN-200; Arts & Sciences Elective Code: B</p>	<p>DEA-928 Independent Study 1 Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean</p>	<p>DEN-300 Dental Radiography 3 Provides students with principles and techniques of dental radiography. Students receive practical experience on manikins and selected patients. (2/2/0/0), Prereq: DEN-100, DEN-120, DEN-130; Arts & Sciences Elective Code: B</p>
<p>DEA-519 Dental Assisting III 1.5 Learn principles of dental assisting with a focus on expanded functions, occlusal registrations, gingival retraction, final impressions, temporary restorations, cavity liners, bases, desensitizing agents and bonding. (0.5/2/0/0), Prereq: DEA-518; Arts & Sciences Elective Code: B</p>	<p>DEN: DENTAL</p> <p>DEN-100 Fundamentals of Dentistry 3.5 Provides the foundations of knowledge necessary to begin a study in the dental field. Introduction to instrumentation, dental specialties and special needs patients are discussed. Introductory oral hygiene instruction and basic radiography are provided. (2/3/0/0), Coreq: HSC-107, HSC-210, DEN-120, DEN-130; Arts & Sciences Elective Code: B</p>	<p>DEN-924 Honors Project 1 Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean</p>
<p>DEA-580 Dental Assisting Clinic I 4 Acquire technical skills from clinical experiences by applying theoretical concepts in general and specialty dentistry areas at the University of Iowa College of Dentistry, Veterans Medical Center in Iowa City, and in private dental office settings. (0.5/0/10.5/0), Prereq: DEA-404, DEA-517, DEN-100, DEN-120, DEN-130, DEN-200, HSC-210, HSC-107; Coreq: DEA-518, DEA-610, DEN-300; Arts & Sciences Elective Code: B</p>	<p>DEN-120 Dental Anatomy 3 Introduces students to basics of embryology, histology, terms and anatomy of the oral cavity including a detailed study of crown and root morphology of both primary and permanent dentition. (3/0/0/0), Arts & Sciences Elective Code: B</p>	<p>DEN-928 Independent Study 1 Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean</p>
<p>DEA-581 Dental Assisting Clinic II 4.5 Comprehensive application of dental assisting skills in the private dental office setting. (1/0/10.5/0), Prereq: DEA-580, DEN-150, DEN-200; Arts & Sciences Elective Code: B</p>	<p>DEN-130 Head and Neck Anatomy 1 Utilizes a systems approach to the gross anatomy of the head and neck with emphasis on the maxilla, mandible, oral tissues, neuromuscular and circulatory function, supporting structures and the temporomandibular joint. (1/0/0/0), Arts & Sciences Elective Code: B</p>	<p>DHY: DENTAL HYGIENE</p> <p>DHY-134 Therapeutics and Pain Control 2 Provides students with knowledge of chemotherapeutics used in dentistry and the mechanisms of drugs in the body. Students are then able to understand manifestations of drug administration in dental treatment. (2/0/0/0), Prereq: DHY-285; Arts & Sciences Elective Code: B</p>
<p>DEA-610 Specialty Dentistry 4.5 Presents the specialty areas of dentistry including: endodontics, periodontics, orthodontics, oral surgery, pediatric dentistry and geriatric dentistry. Includes procedures, instruments and current concepts for assisting in these areas. Includes expanded functions: dry socket medication, periodontal dressings and pulp vitality testing. Also includes psychological considerations in dentistry. (4/1/0/0), Prereq: DEA-517, DEN-100, DEN-120, DEN-130; Arts & Sciences Elective Code: B</p>	<p>DEN-150 Dental Emergencies 0.5 Provides an overview of emergencies common to the dental office setting. Students gain knowledge in emergency drugs, allergic reactions and drug-related emergencies. Also emphasized are specific medical conditions related to treatment. (0.5/0/0/0), Prereq: DEN-100, DEN-120, DEN-130; Arts & Sciences Elective Code: B</p>	<p>DHY-140 General and Oral Pathology 2 An introduction to the general principles of pathology for dental hygienists with emphasis on specifics of oral pathology; building upon and applying biomedical science knowledge to the diagnosis and treatment of oral and maxillofacial diseases. Terminology is a main focus throughout the course. (2/0/0/0), Prereq: DEN-120, DEN-130, DEN-300, DHY-186; Arts & Sciences Elective Code: B</p>
<p>DEA-702 Dental Office Procedures 2</p>	<p>DEN-200 Preventive Dentistry 1.5 Provides an introduction to dental disease, the causes and methods for prevention. An intense focus on dental caries and preliminary information on periodontal disease. Students</p>	<p>DHY-173 Dental Hygiene I 4 Provides an introduction to the clinical portion of the dental profession. Emphasis is on skills</p>

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necessary for preliminary patient care including health histories, basic instrumentation, and legal and ethical issues. Manikin and patient practice are utilized. (2/0/6/0), Arts & Sciences Elective Code: B

DHY-186 Dental Hygiene II 4
Provides experience in the application of dental hygiene techniques on a variety of patients in a clinical setting. Clinical experience includes oral prophylaxis, fluoride therapy and oral physiotherapy. Didactic training encompasses new clinical skills, assessment, treatment planning and effective communication skills. (2/0/6/0), Prereq: DHY-173; Arts & Sciences Elective Code: B

DHY-211 Periodontology 2
Introduction to the aspects of periodontal disease, the disease process and management of periodontal patients. Emphasis is placed on periodontal instrument techniques and surgery as performed by the dentist. (2/0/0/0), Prereq: BIO-186, DEN-120, DEN-200, DHY-285; Arts & Sciences Elective Code: B

DHY-220 Dental Materials 1.5
Introduces students to materials utilized in the dental field. Includes handling and preparation of specific materials. Prepares students for clinical procedures to be performed on patients. (1/1/0/0), Prereq: DEN-100, DEN-120; Arts & Sciences Elective Code: B

DHY-250 Community Dental Health 1.5
Provides concepts of health education and promotion, community dental health, and public health dentistry with an emphasis on assessment, planning, implementation and evaluation of community oral health promotion. (1/1/0/0), Prereq: DEN-100, DEN-200, DHY-285; Arts & Sciences Elective Code: B

DHY-270 Local Anesthesia for the Dental Hygienist 1
Learn basic concepts for safe and effective administration of local anesthesia, including hands-on preparation in techniques used in the practice of administering local anesthesia. (0.5/1/0/0), Prereq: DEN-120, DEN-130, DHY-134, DHY-186; Arts & Sciences Elective Code: B

DHY-285 Dental Hygiene III 3
Emphasis on treatment of patients with moderate dental disease, continued application of diagnostic information and treatment planning by student. (1/0/6/0), Prereq: DHY-186; Arts & Sciences Elective Code: B

DHY-296 Dental Hygiene IV 5
Provides continued development of oral prophylaxis skills. Emphasis is placed on accessory treatment, outside of a routine prophylactic appointment, and on aided scaling procedures. (1/0/12/0), Prereq: DHY-285; Arts & Sciences Elective Code: B

DHY-306 Dental Hygiene V 5
Prepares students for transition to practice. Board preparation material, credentialing, advanced instrumentation and accessory procedure techniques are taught. Current trends in the dental field are discussed. (1/0/12/0), Prereq: DHY-296; Arts & Sciences Elective Code: B

DHY-910 Dental Hygiene Clinical Enrichment 1
Provides focused reinforcement in the clinical portion of the dental hygiene profession, with emphasis placed on skills necessary for patient care. Content includes basic instrumentation and instruction in radiographic techniques. Manikin and patient practice are utilized for learning experience. Successful completion of this course fulfills the requirement to re-enter the second year of the Dental Hygiene program at Kirkwood or the remediation requirement for a clinical board examination. (0/0/3/0), Prereq: DHY-173, DHY-186; Arts & Sciences Elective Code: B

DLT: DENTAL LAB TECHNOLOGY

DHY-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

DHY-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

DLT-152 DLT Oral Anatomy 1
Study of the anatomical and physiological features, structures and function of the human head that must be considered in the fabrication of dental prostheses. (1/0/0/0), Arts & Sciences Elective Code: B

DLT-156 Dental Anatomy Lab 2
Includes waxing of dental tooth surfaces on a stone cast that introduces the basic concepts of occlusion. (0/4/0/0), Coreq: DEN-120; Arts & Sciences Elective Code: B

DLT-250 Foundation of Dental Technology 3
Orients the student to dental technology including infection control, equipment operation, and health and safety. Applies numerous physiochemical principles to the study and manipulations of basic dental materials. (2/2/0/0), Arts & Sciences Elective Code: B

DLT-251 Introduction to Dentures 5
Introduction to the fabrication of complete dentures including procedures, equipment and the materials required to replace natural dentition and the associated structures of the maxilla and mandible. Also includes complete denture repairing, relining and rebasing. (2/6/0/0), Coreq: DEN-120, DLT-152, DLT-156, DLT-250, DLT-565; Arts & Sciences Elective Code: B

DLT-253 Introduction to Partial Dentures 5
Applies the basic principles for removable partial denture framework fabrication including classification, components, surveying, designing, waxing, investing, casting and finishing. (2/6/0/0), Prereq: DLT-152, DLT-251, DLT-565; Arts & Sciences Elective Code: B

DLT-254 Introduction to Crown and Bridge 5
Applies techniques of model preparation, articulation and laboratory procedures for construction of full-cast crowns, inlays and bridges. (2/6/0/0), Prereq: DEN-120, DLT-152, DLT-156, DLT-250, DLT-565; Arts & Sciences Elective Code: B

DLT-350 Fixed Dental Prosthodontics 5
Advanced fabrication of ceramics and crown/bridge prosthesis to include, but not limited to, multiple unit bridges, acid etch, post and core using porcelain systems to match natural dentition. (2/6/0/0), Prereq: DLT-254, DLT-456; Arts & Sciences Elective Code: B

DLT-351 Removable Dental Prosthodontics 5
Advanced fabrication of complete dentures and partial prosthesis to include intra-oral gothic arch tracings, articulation of teeth in bilateral balanced occlusion, immediate dentures, characteristics and staining techniques, identification in denture bases and fluid resins. (2/6/0/0), Prereq: DLT-251, DLT-253; Arts & Sciences Elective Code: B

DLT-352 Dental Technology Industry 3
Includes ethics, jurisprudence, history, certification and dental organizations. Studies the establishment and operation of a dental laboratory, including market surveying, bookkeeping, cost analysis, design and understanding human behavior from a supervisor's point of view. (3/0/0/0), Prereq: DLT-250; Arts & Sciences Elective Code: B

DLT-445 Orthodontics 3
Identifies malocclusion classifications and incorporates the study of orthodontic materials and use of equipment into the fabrication of basic

orthodontic appliances. (1/4/0/0), Prereq: DEN-120, DLT-152, DLT-156, DLT-250, DLT-565; Arts & Sciences Elective Code: B

DLT-450 Advanced Orthodontics 8
Comprehensive application of orthodontic and pedodontic appliance fabrication. Emphasizes quality, productivity, specific techniques and procedures, and the ability to interpret work authorizations. Students gain practical experience in a commercial dental laboratory. (2/0/18/0), Prereq: DLT-445; Arts & Sciences Elective Code: B

DLT-451 Advanced Fixed Dental Prosthodontics 12
Comprehensive application of porcelain and crown/bridge prosthesis to include, but not limited to, stress-breaker, telescopic, and laminates using techniques and modifications of porcelain systems to match natural dentition in a variety of situations. Students gain practical experience in a commercial dental laboratory. (2/4/24/0), Prereq: DLT-350; Arts & Sciences Elective Code: B

DLT-452 Adv Removable Dental Prosthodontics 12
Comprehensive application of complete and partial prostheses. Includes overdentures, lingualized occlusion, biomechanical design principles, specific concepts, stress equalizers, quality and productivity improvement and work authorization interpretation. Students gain practical experience in a commercial dental laboratory. (2/4/24/0), Prereq: DLT-351; Arts & Sciences Elective Code: B

DLT-456 Introduction to Ceramics 5
Fabrication of porcelain fused to metal prosthesis to include framework design considerations, porcelain characteristics and limitations, equipment and materials required to replace natural dentition. (2/6/0/0), Prereq: DLT-254; Arts & Sciences Elective Code: B

DLT-565 Occlusion 1
In-depth study of the principles of occlusion and their application to fabrication of dental prosthesis. (1/0/0/0), Coreq: DEN-120, DLT-152; Arts & Sciences Elective Code: B

DLT-851 DLT Clinic I 1
Assigns each student to clinical areas to gain practical experience relating to instructional and manipulative skills provided in the classroom. (0/0/3/0), Prereq: DLT-251, DLT-253, DLT-254, DLT-456; Arts & Sciences Elective Code: B

DLT-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising

professor and dean

DLT-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

DRA: FILM AND THEATRE

DRA-101 Introduction to Theatre 3
Requires no previous experience. Introduces the student to the roles of actor, director, designer, playwright and critic, and provides a brief history of the art. (3/0/0/0), Arts & Sciences Elective Code: A

DRA-116 Film Analysis 3
Focuses on the methods and technologies of film art. The emphasis is on analysis of classic narrative films. Subjects for analysis include narrative structure, segmentation, shot-by-shot breakdown, elements of mise-en-scene and montage, auteurs, genres, production considerations, and conventions. (3/0/0/0), Arts & Sciences Elective Code: A

DRA-117 Film Topics 3
Offers in-depth study of various topics in film studies. Some topics offered are the study of genre theory, specific genres, film adaptation of literature and drama, moral themes and documentary film. All film topics will study the relationship between the topic and culture, identify operating principles and relevant contextual forces, and apply these concepts to the study of specific films. Course may be repeated for credit. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

DRA-125 Introduction to Play Analysis 3
Focuses on the reading, discussion, interpretation and analysis of dramatic texts. It is the aim of this course to provide a concentrated study of beginning play analysis through discussion and written analysis. Students gain an understanding of the important role that dramatic analysis plays when mounting a production in the theatre. (3/0/0/0), Arts & Sciences Elective Code: A

DRA-130 Acting I 3
Introduces basic acting techniques with emphasis on improvisation, concentration and self-analysis. (3/0/0/0), Arts & Sciences Elective Code: A

DRA-132 Acting II 3
Continues training in basic acting techniques with emphasis on creating characters in scripted scenes. Students present individual and group scenes. (3/0/0/0), Prereq: DRA-130; Arts & Sciences Elective Code: A

DRA-163 Technical Theatre 4

Provides information on and experience with the materials, tools, equipment, and techniques of manual drafting, scenery construction and painting, stage lighting, costuming, and make-up. Hands-on experience with each of the areas of study is emphasized. Students are required to work on the technical aspects for one Kirkwood production. The course is designed to produce students who have a working knowledge of the basic techniques of producing a live performance. The course is open to all students. (3/2/0/0), Arts & Sciences Elective Code: A

DRA-172 Technical Theatre Lab 1
Provides students credit for work as technicians in one Kirkwood production. A minimum of 24 hours of practical work is required for a passing grade. May be repeated up to six times. (0/2/0/0), Arts & Sciences Elective Code: A

DRA-230 Acting Lab 1
Provides students credit for work as actors in one Kirkwood production. A minimum of 24 hours of practical work is required for a passing grade. May be repeated up to six times. (0/2/0/0), Arts & Sciences Elective Code: A

DRA-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

DRA-928 Independent Study 1-3
Allows the student to do readings, papers, research and/or production work under the guidance of a theatre faculty member. Independent study contract required. (0/2-6/0/0), Arts & Sciences Elective Code: A

DRF: DRAFTING

DRF-141 Engineering Drawings 2
Introduces the fundamentals of drafting such as lettering, line quality, orthographic projection, isometric drawing, detail drawing, basic plan drawing, dimensioning and scale reading. Students are familiarized with the tools and techniques of the trade. Emphasis is on developing accuracy, line quality, graphic ability and lettering control. The different assignments focus on skills required in the profession. (2/0/0/0), Arts & Sciences Elective Code: B

Course Descriptions

<p>DRF-142 Engineering Design I 3 Allows students to gain an understanding of drawing mechanical parts used in design. Problem-solving approach is used to work out problems on the drafting board, resulting in a final drawing. Topics selected are: instrument instruction, lettering, geometric construction, sketching, multiview projection, sectional views, calculating weight of a mechanical part, auxiliary views, isometrics, obliques, weld symbols, threads and fasteners, dimensioning and tolerancing. (1/4/0/0), Prereq: DRF-141; Arts & Sciences Elective Code: B</p>	<p>systems from a truck perspective are explained. (1/2/0/0), Arts & Sciences Elective Code: B</p>	<p>DSL-924 Honors Project 1 Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean</p>
<p>DRF-143 Engineering Design II 3 Introduces the student to special topics in drafting: gears, structural drawing, pipe drawing. A major portion of the semester involves doing an engineering project. The project requires assembly drawings, weld complete, details, bill of materials and weight calculations. This project requires a comprehensive review of the drafting course. Students are also required to do work on the computer. (1/4/0/0), Prereq: DRF-142; Arts & Sciences Elective Code: B</p>	<p>DSL-345 Truck Engines 3 Covers the introduction to diesel engines commonly used in the trucking industry. The design of engine components and subassemblies is examined with emphasis on the reasons certain design features are used. Correct procedures for testing and servicing truck engines are explained and demonstrated. (2/2/0/0), Prereq: DSL-355; Arts & Sciences Elective Code: B</p>	<p>DSL-928 Independent Study 1 Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean</p>
<p>DRF-924 Honors Project 1 Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean</p>	<p>DSL-355 Fundamentals of Internal Combustion Engines 3 Covers fundamentals of two- and four-stroke engine operation, servicing and adjustment. Learning activities concentrate on proper disassembly, measuring and reassembly of actual engines. (2/2/0/0), Arts & Sciences Elective Code: B</p>	<p>DSV: DISABILITY SERVICES</p> <p>DSV-100 Introduction to Disabilities Services 3 Examines the values, skills and issues of working with people with disabilities in educational, vocational and residential settings. Students visit agencies and complete volunteer experiences at community sites. This course meets part of the requirement for the Iowa Paraeducator Generalist Certification. (3/0/0/0), Arts & Sciences Elective Code: A</p>
<p>DRF-928 Independent Study 1 Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean</p>	<p>DSL-424 EFI Engine Systems 4 Provides a thorough explanation and hands-on experience in the theory, operation, diagnosis, maintenance and repair of electronic fuel injected diesel engines. Learning activities include the use of testing equipment used to diagnose EFI engines. Lab activities are designed to reinforce the understanding of the operation and maintenance of these engines. (2/4/0/0), Prereq: DSL-143, DSL-345, DSL-355; Arts & Sciences Elective Code: B</p>	<p>DSV-101 Beginning Braille 2 Develops the skills needed to support Braille learners. Topics include the philosophy of Braille, using Braille, making adaptations and using technology. (2/0/0/0), Arts & Sciences Elective Code: A</p>
<p>DSL: DIESEL</p> <p>DSL-143 Fundamentals of Electricity 3 Covers introduction to electricity, i.e. voltage, amperage and resistance with emphasis on Ohm's Law and its practical application. Meter fundamentals are covered. Series, parallel and series-parallel circuits are studied. (2/2/0/0), Arts & Sciences Elective Code: B</p>	<p>DSL-543 Truck Clutches 3 Introduces students to the testing and servicing of clutches found on most trucks. Learning activities include examining, servicing and replacement of clutches. (2/2/0/0), Arts & Sciences Elective Code: B</p>	<p>DSV-106 Paraeducator Skills 1 Focuses on specific issues related to working as a paraeducator including: health, safety, and emergency procedures and policies; knowledge in content areas of reading, writing and math and adapting instructional strategies and materials in these content areas; supporting the need of children who are considered "at risk"; working effectively with families; integrating the use of technology; and discussing ethical and professional standards issues. (1/0/0/0), Arts & Sciences Elective Code: A</p>
<p>DSL-156 Truck Electronics 3 Continues the basic electrical coverage of DSL-143 with an additional emphasis on the types of electrical circuits and subassemblies found in most trucks. Students learn interior and exterior lighting, steering column, dash, wiper motors, temperature controls, power locks and windows, and on-board computers. (2/2/0/0), Prereq: DSL-143; Arts & Sciences Elective Code: B</p>	<p>DSL-630 Air Brakes and ABS 2 Covers a basic introduction to air brakes and anti-locking braking systems. Learning activities concentrate on theory, operation, diagnosis, maintenance, and repair of air and anti-lock brakes found on diesel trucks. (1/2/0/0), Arts & Sciences Elective Code: B</p>	<p>DSV-120 Observation and Management of Behavior 3 Develops skills of observation and management of the behavior of others individually and in groups. Students develop strategies for helping others to manage their own behavior. This course meets part of the requirement for the Iowa Paraeducator Generalist Certification. May be repeated one time for credit with permission of coordinator. (3/0/0/0), Arts & Sciences Elective Code: A</p>
<p>DSL-308 Cooling Systems 2 Introduces the student to truck cooling systems. The principles of cooling systems and the standard components of cooling systems are examined. Testing and servicing of cooling</p>	<p>DSL-642 Steering and Suspension 2 Includes theory and operation of steering components and servicing. Students learn theory and operation of air ride and spring suspension components on light and heavy duty trucks. (1/2/0/0), Arts & Sciences Elective Code: B</p>	<p>DSV-130 Instruction and Adaptation Strategies 3 Develops the skills to facilitate the</p>

mainstreaming of students with disabilities and work with gifted and talented students in school settings. Students taking the course learn strategies for instructing diverse groups of learners and adapting curriculum and materials. The course includes an overview of the special education system and the evolving relationship with regular education. Issues related to adults with disabilities are discussed. (3/0/0/0), Arts & Sciences Elective Code: A

DSV-200 Exceptional Persons 3
Studies the educational, cultural, and social aspects of children and adults who are exceptional in the context of mental, emotional and physical development. Includes discussion of gifted and talented children in schools. (3/0/0/0), Prereq: PSY-111; Arts & Sciences Elective Code: A

DSV-250 Culturally and Linguistically Diverse Children 3
Prepares staff to work with culturally and linguistically diverse children, including English language learners, those with language disorders, deaf and hard of hearing students. Includes use of technology, instructional methodology, appropriate translation and interpretation procedures, and communication with team members. Participants work collaboratively and individually to develop projects. (3/0/0/0), Prereq: DSV-100 & DSV-120, or IPT-252 & PSY-121; Arts & Sciences Elective Code: A

DSV-280 Career and Transition Services 3
Studies issues related to career and transition programs for children receiving special education services in K-12 programs and for adults with disabilities. Addresses issues of self-determination; career assessment; transition to employment, independent living, and post-secondary education; behavior support; and interagency collaboration. Includes the role of the paraeducator in transition settings and the job coach in supported employment settings. (3/0/0/0), Arts & Sciences Elective Code: A

DSV-285 Career and Transition Services Field Experience and Seminar 3
Places the student in a supported employment setting working as a job coach. Students develop specific objectives related to program competencies. Biweekly seminars are held to assess progress and student experiences. (1/0/6/0), Prereq: DSV-100, DSV-280; Arts & Sciences Elective Code: A

DSV-290 Disabilities Services Careers Field Experience and Seminar 3
Places the student in two settings (educational, vocational or residential) which serve people with disabilities. Students develop specific objectives related to program competencies. Students meet in seminars to assess progress and

discuss student experiences. (1.5/0/4.5/0), Prereq: DSV-100, PSY-111, DSV-110 or DSV-120 or DSV-130; Arts & Sciences Elective Code: A

DSV-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

DSV-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

ECE: EARLY CHILDHOOD EDUCATION

ECE-103 Introduction to Early Childhood Education 3
Gives students an historical and philosophical foundation of the field of early childhood education. Includes an overview of assessment and trends that influence best practices. Explores careers in the field. Addresses influences of families and diversity. (3/0/0/0), Arts & Sciences Elective Code: A

ECE-133 Child Health, Safety and Nutrition 3
Focuses on current concepts in the fields of health, safety and nutrition and their relationship to the growth and development of young children ages birth to eight. Blends current theory with practical applications and assessments. Includes the influences of families and diversity on health, safety and nutrition in early childhood settings. (3/0/0/0), Arts & Sciences Elective Code: A

ECE-158 Early Childhood Curriculum I 3
Focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students prepare to utilize developmentally appropriate practices in a context of family and culturally sensitive care. Emphasizes understanding children's developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: dramatic play, art, music, fine and gross motor play. (3/0/0/0), Arts & Sciences Elective Code: A

ECE-159 Early Childhood Curriculum II 3
Focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through

eight. Students prepare to utilize developmentally appropriate practices in a context of family and culturally sensitive care. Emphasizes understanding children's developmental stages and developing appropriate learning opportunities, interactions and environments in the following areas: emergent literacy, math, science, technology and social studies. (3/0/0/0), Prereq: ECE-158; Arts & Sciences Elective Code: A

ECE-170 Child Growth and Development 3
Reviews typical and atypical development of children from conception to adolescence in all developmental domains. Presents interactions between child, family and society within a variety of community and cultural contexts. Examines theories associated with our understanding of children. (3/0/0/0), Arts & Sciences Elective Code: A

ECE-221 Infant/Toddler Care and Education 3
Focuses on the care, education and assessment of children from birth to 36 months. Prepares students to utilize developmentally appropriate practices including responsive caregiving, routines as curriculum, importance of relationships with diverse families and a focus on the whole child in inclusive settings. (3/0/0/0), Prereq: ECE-170 or PSY-121; Arts & Sciences Elective Code: A

ECE-243 Early Childhood Guidance 3
Focuses on effective approaches and positive guidance strategies for supporting the development of all children. Emphasizes supportive interactions and developmentally appropriate environments. Uses assessment to analyze and guide behaviors. Studies impact of families and diversity on child guidance. (3/0/0/0), Prereq: ECE-170 or PSY-121; Arts & Sciences Elective Code: A

ECE-262 Early Childhood Field Experience 3
Supervised experience in selected early childhood settings serving children ages birth through eight. Includes integration of theory, research, and reflective practice. Provides an understanding of developmentally appropriate practices and the developmental stages of diverse populations of young children and families. Emphasizes professional relationships and behavior, appropriate adult/child interactions, basic curriculum planning and program routines. (1/0/6/0), Prereq: ECE-103, ECE-158, ECE-170; Arts & Sciences Elective Code: A

ECE-290 Early Childhood Program Administration 3
Addresses the function common to administering quality child care programs, planning,



Course Descriptions

implementation, operating and evaluating. Aspects covered include director responsibilities; policy setting; development; staff, fiscal and facility management; parent involvement; and marketing. (3/0/0/0), Arts & Sciences Elective Code: A; Comments: Experience in child care setting, Early Childhood curriculum courses preferred

ECE-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of an honors faculty member. Requires completion of an honors project learning contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ECE-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

ECN: ECONOMICS

ECN-120 Principles of Macroeconomics 3
Introduces principles of the economizing problem with emphasis on national income and employment analysis. Includes national income accounting, the business cycle, money and banking, fiscal and monetary theory, policy, and economic growth. Recommended for students pursuing a baccalaureate degree. (3/0/0/0), Arts & Sciences Elective Code: A

ECN-130 Principles of Microeconomics 3
Emphasizes markets, the price system and the allocation of resources, demand and supply, market structures, price and output determination, and income distribution. Recommended for students pursuing a baccalaureate degree. (3/0/0/0), Arts & Sciences Elective Code: A

ECN-210 Asian Economic Systems 3
Studies the mechanisms for decision making and the process of implementing decisions regarding the production, distribution, and consumption of goods and services in Asia. Examines different forms of economic systems including capitalism, capitalist-mixed economics, socialist-mixed economics and market socialism. Encourages students to compare and critically evaluate these various economic systems. (3/0/0/0), Arts & Sciences Elective Code: A

ECN-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of an honors faculty member. Requires completion of an honors project learning contract. May be taken more than once. (1/0/0/0),

Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ECN-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

EDU: EDUCATION

EDU-110 Exploring Teaching 3
Introduces the concerns and activities of beginning teachers. The focus is on developing generic teaching skills applicable from preschool through high school. Microteaching is used to simulate actual teaching situations. Case studies are used to discuss common teaching problems. (3/0/0/0), Arts & Sciences Elective Code: A

EDU-200 Topics in Education 1
Provides an opportunity for students to study a current issue in education. Topics are selected from the following categories: teaching methods, learning theory, motivation and professionalism. (1/0/0/0), Arts & Sciences Elective Code: A

EDU-212 Educational Foundations 3
Examines the impact of social policies on the public education system. Introduces the history and philosophy of education. Students examine current beliefs about education and its effectiveness. Controversial issues are discussed and debated. (3/0/0/0), Arts & Sciences Elective Code: A

EDU-240 Educational Psychology 3
Applies psychological concepts to the field of education. Major focus is on cognitive, behavioral and humanistic theories. Areas of emphasis include child and adolescent development, learning theory, memory, motivation, intelligence, instruction and measurement. (3/0/0/0), Prereq: PSY-111; Arts & Sciences Elective Code: A

EDU-805 Literacy Tutor Experience 1-3
Provides students with an opportunity to spend 30, 60 or 100 hours in a school or other community agency tutoring in reading and other basic skills. In addition, 12 hours of seminar are part of the course. (0/0/3-9/0), Arts & Sciences Elective Code: A; Comments: 2.0 GPA required

EDU-920 Field Experience 2-3
Offers experience in classrooms. Students spend 60 or 100 hours per semester at a school working under the supervision of a teacher. Students choose between preschool, elementary and secondary settings. A seminar is also part of the course. (0/0/6/0), Prereq: EDU-110, PSY-111 and either PSY-121 or EDU-240; Arts & Sciences Elective Code: A; Comments: 2.4 GPA required

EDU-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

EDU-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of the staff members. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean.

EGR: ENGINEERING

EGR-100 Engineering Orientation 1
Explores engineering career options and engineering disciplines. Students learn problem-solving skills and develop an educational plan of study. (1/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

EGR-160 Engineering I 3
Develops skills in modeling and solving engineering problems, data analysis, engineering graphics, and technical communication using computer application software. (2/2/0/0), Prereq: MAT-136; Arts & Sciences Elective Code: A

EGR-165 Engineering II 3
Develops skills in solving engineering problems using the C-programming language. Programming and numerical techniques are directly applied to the engineering discipline. (2/2/0/0), Prereq: MAT-136; Arts & Sciences Elective Code: A

EGR-170 Materials Science 3
Covers the different structures of materials and the resulting mechanical, electrical and magnetic properties; phase diagrams; kinetics and materials in engineering design. (3/0/0/0), Prereq: CHM-165, MAT-136; Arts & Sciences Elective Code: A

EGR-180 Statics 3
Covers such topics as vector algebra, forces, couples, equivalent-force couple systems, Newton's laws, friction, equilibrium, centroids, area moments of inertia and applications. (3/0/0/0), Prereq: MAT-210; Arts & Sciences Elective Code: A

EGR-280 Dynamics 3
Emphasizes vector calculus, Newton's laws, kinetics and kinematics of particle motion, multiparticle systems, and rigid bodies and applications. (3/0/0/0), Prereq: EGR-180, MAT-216; Arts & Sciences Elective Code: A

EGR-285 Introduction to Electrical Science 4
Covers DC and AC circuits, Ohm's law, Kirchoff's voltage and current laws. Circuit analysis

techniques including Thevenin equivalents, superposition, source transformation, nodal and mesh analysis, transient and steady state response, complex impedance, average power, RMS voltage and current. (3/2/0/0), Prereq: MAT-216; Arts & Sciences Elective Code: A

EGR-290 Thermodynamics 3
Includes basic elements of classical thermodynamics including first and second law; reversibility; irreversibility; Carnot cycle; properties of pure substances, closed simple systems and one-dimensional steady-flow open systems; and engineering applications. (3/0/0/0), Prereq: CHM-165, MAT-216; Arts & Sciences Elective Code: A

EGR-380 Mechanics of Deformable Bodies 3
Introduces basic theory of deformable bodies by analyzing stress/strain relationships in objects subject to axial, transverse, bending, torsion, combined and buckling loads. Elementary theory of material failure also introduced. (3/0/0/0), Prereq: EGR-180, MAT-216; Arts & Sciences Elective Code: A

EGR-400 PLTW - Introduction to Engineering Design 3
Teaches problem-solving skills using a design development process. Focuses on using solid modeling computer design software to create, analyze and communicate product solutions. This course was developed by Project Lead the Way. (1/4/0/0), Arts & Sciences Elective Code: A

EGR-410 PLTW - Principles of Engineering 3
Using technology systems and manufacturing processes, students find out how math, science, and technology help people. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400; Arts & Sciences Elective Code: A

EGR-420 PLTW - Digital Electronics 3
Uses computer simulations to teach students the logic of electronics as they design, test and construct circuits and devices. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: A

EGR-430 PLTW - Aerospace Engineering 3
Teaches students to apply scientific principles and concepts to design materials and processes that directly measure, repair, and improve systems in different environments. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: A

EGR-440 PLTW - Biotechnical Engineering 3
Introduces students to the application of biological and engineering concepts related to biomechanics, genetic engineering and forensics. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: A

EGR-450 PLTW - Computer Integrated 3

Manufacturing
Teaches robotics and automated manufacturing concepts by creating three-dimensional designs with modeling software, then producing actual models of student designs. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: A

EGR-460 PLTW - Civil Engineering and Architecture 3
Introduces teams of students to collaboration on the development of community-based building projects and conceptual design for project presentations. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: A

EGR-470 PLTW - Engineering Design and Development 3
Continues collaborative efforts as teams of students, guided by community members, work together to research, design and construct solutions to engineering problems. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: A

EGR-900 NSF Technology Seminar 1
Investigates the skills and responsibilities associated with high technology careers. Students develop a Personal Growth Portfolio. May be repeated four times for credit. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

EGR-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

EGR-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

EGT: ENGINEERING TECHNOLOGY

EGT-124 Strength of Materials 4
Introduces the analysis and design of basic structural members (bars, beams, shafts, connectors, columns) under various loads to determine stress, strain, load limits, required size and deflection. Covers eccentric and statically indeterminate loads. Students use software as an analysis and visualization tool. (3/2/0/0), Prereq:

EGT-125; Arts & Sciences Elective Code: B

EGT-125 Applied Statics 4
Analyzes the forces and moments necessary to produce static equilibrium for bodies at rest. Covers vectors, the equations of equilibrium, analysis of simple structures, friction, fluid statics, hanging cables, centroids and area moments of inertia. (3/2/0/0), Prereq: PHY-190; Arts & Sciences Elective Code: B

EGT-132 Kinematics 4
Studies kinematics, a study of motion without regard to forces that cause it. This course studies the analysis of a kinematic system for displacement, velocity and acceleration. The majority of solutions to problems are by a biographical method. Some are solved analytically. Students study linkages, cams and gears. Students solve problems by use of vectors in a logical order. (2/4/0/0), Prereq: EGT-125; Arts & Sciences Elective Code: B

EGT-136 Dynamics 4
Analyzes force systems to determine the forces necessary to produce an equilibrium condition for rigid bodies that are in motion. Three solution methods are used to relate force and mass with acceleration, velocity and displacement: force method, work-energy methods and impulse-momentum method. (3/2/0/0), Prereq: EGT-125; Arts & Sciences Elective Code: B

EGT-146 Hydraulics 3
Hydraulics is a basic course in the use of hydraulic pumps and systems. Special emphasis is given to pumping, controlling, measuring flows, and design and analysis. Special emphasis is placed on distinguishing between types of valves, pumps, hose and connection arrangements, and flow patterns. Students learn basic graphical symbols for making schematic drawings as well as the terminology for all hydraulics. (3/0/0/0), Arts & Sciences Elective Code: B

EGT-188 Design Problems 4
Offers students the opportunity to use their creativity in designing a specific product from scratch. The process will start with a basic concept as a solution to a problem and progress through an analytical stage involving calculations and layout drawings. The project will include final assembly and detail drawings, and a bill of materials. (1/6/0/0), Coreq: EGT-194; Arts & Sciences Elective Code: B

EGT-194 Machine Design 5
Focuses on problems involving the size, shape and material requirements of machine parts. Various loading conditions are applied to the machine components. Students analyze plates, shafts, weldments, fasteners, springs, wire rope and bearings. (3/4/0/0), Coreq: EGT-188; Arts & Sciences Elective Code: B

Course Descriptions

EGT-400 PLTW - Introduction to Engineering Design 3

Teaches problem-solving skills using a design development process. Focuses on using solid modeling computer design software to create, analyze and communicate product solutions. This course was developed by Project Lead the Way. (1/4/0/0), Arts & Sciences Elective Code: B

EGT-410 PLTW - Principles of Engineering 3

Using technology systems and manufacturing processes, students find out how math, science, and technology help people. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400; Arts & Sciences Elective Code: B

EGT-420 PLTW - Digital Electronics 3

Uses computer simulations to teach students the logic of electronics as they design, test and construct circuits and devices. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: B

EGT-430 PLTW - Aerospace Engineering 3

Teaches students to apply scientific principles that directly measure, repair, and improve systems in different environments. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: B

EGT-440 PLTW - Biotechnical Engineering 3

Introduces students to the application of biological and engineering concepts related to biomechanics, genetic engineering and forensics. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: B

EGT-450 PLTW - Computer Integrated Manufacturing 3

Teaches robotics and automated manufacturing concepts by creating three-dimensional designs with modeling software, then producing actual models of student designs. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: B

EGT-460 PLTW - Civil Engineering and Architecture 3

Introduces teams of students to collaboration on the development of community-based building projects and conceptual design for project presentations. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: B

EGT-470 PLTW - Engineering Design and Development 3

Continues collaborative efforts as teams of students, guided by community members, work together to research, design and construct solutions to engineering problems. This course was developed by Project Lead the Way. (1/4/0/0), Prereq: EGT-400, EGT-410; Arts & Sciences Elective Code: B

EGT-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

EGT-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

ELT: ELECTRONICS

ELT-129 Electrical Applications for Plumbing 2

Provides general knowledge of basic electrical applications used in the plumbing trade. Students learn to use basic electrical equipment including multimeters. Other topics include current, voltage, resistance, symbols and basic AC circuits. (1/2/0/0), Arts & Sciences Elective Code: B

ELT-146 National Electrical Code and Electrical Wiring 5

Covers electrical codes and wiring techniques that are essential to the installation of electrical wiring. Local and National Electrical Codes are used to complete electrical wiring diagrams for a residential structure. Practical experience is provided by laboratory exercises designed to familiarize the student with electrical wiring components, wiring techniques, and the tools of the trade. (3/4/0/0), Prereq: ELT-304; Arts & Sciences Elective Code: B

ELT-152 Industrial Maintenance I 4

Provides an elementary look into industrial maintenance. Topics include electrical safety, vibration analysis, shaft alignment, lubrication, thermal imaging and preventive maintenance. (3/2/0/0), Arts & Sciences Elective Code: B

ELT-211 Motor Control Circuits 4

Provides students with theory and hands on experience analyzing, designing and troubleshooting motor control circuits. Learning activities include reading, lecture and labs. Motor control theory is introduced covering control devices, schematic symbols, and the use of schematic and wiring diagrams. Wiring labs provide practical applications for control circuits.

Students prepare simple schematics and wiring diagrams to meet specifications. (1/6/0/0), Prereq: ELT-224; Arts & Sciences Elective Code: B

ELT-224 Motors and Transformers 5

Provides theory and hands-on experience with electric motors and transformers. Learning activities include reading, lecture and labs. Covers DC, three-phase and single-phase motors in depth, and studies three-phase and single-phase transformers, applications and connections. (4/2/0/0), Prereq: ELT-304, MAT-718; Arts & Sciences Elective Code: B

ELT-255 Programmable Logic Controllers 6

Covers basic and advanced programming of the most popular programmable controllers used in industrial automation. Basic ladder logic programming, timers, counters, data manipulation, data compare, temperature control and analog operations are covered. Troubleshooting and installation are also included. (3/6/0/0), Prereq: ELT-211; Arts & Sciences Elective Code: B

ELT-277 Electronic Practices 4

Presents DC current, voltage, energy, power, resistance, capacitance, inductance and semiconductor theory in a practical laboratory setting. Focuses on lab safety, component identification, schematic reading and the use of equipment to measure prototype circuits. Includes extensive laboratory sessions requiring schematic reading, constructing circuits, using soldering and solder-less breadboard, and utilizing lab equipment to measure and troubleshoot circuits. (2/4/0/0), Arts & Sciences Elective Code: B

ELT-301 Professional Development 1

Presents the abilities and behaviors expected by employers of electronics technicians. Discusses personal development and career advancement. Establishes guidelines for personal organization, problem solving, verbal and non-verbal skills, participation, punctuality and dependability. (1/0/0/0), Arts & Sciences Elective Code: B

ELT-304 Introduction to Electrical Circuits 4

Studies the theory and application of electricity. Includes electrical safety, shop methods, electrical theory and circuit analysis. Laboratory experiments enhance learning of theories studied and provide hands-on experience with electrical test instruments and soldering equipment. (3/2/0/0), Arts & Sciences Elective Code: B

ELT-309 Digital Circuits 3

Presents the analysis and design of digital circuits. Introduces Boolean algebra as a tool for working with basic gates, flip-flops, latches, and adders and timers. Laboratory and computer-simulation exercises enhance understanding. (2/2/0/0), Prereq: ELT-517; Arts & Sciences Elective Code: B

ELT-341 Electric Circuits II 4

Adapts DC circuit analysis techniques to the

AC realm. The fundamental concepts of passive filters and frequency response are also examined. Learning activities include computer simulations and extensive laboratory sessions to allow the student to investigate these concepts. (3/2/0/0), Prereq: ELT-272, ELT-340; Coreq: MAT-746; Arts & Sciences Elective Code: B

ELT-345 Electric Circuits I 5
Presents fundamental DC concepts (i.e., current, voltage, polarity, energy, power), describes methods for analyzing DC electric circuits, studies resistive-inductive and resistive-capacitive circuits, and introduces the fundamental concepts of AC electricity. Includes computer simulations and extensive laboratory sessions. (4/2/0/0), Prereq: College-level math course and Electronic Practices; Arts & Sciences Elective Code: B

ELT-395 Advanced Electrical Circuits 5
Continues Introduction to Electrical Circuits and expands to include AC theory, inductors, capacitors, transformers, three-phase, networks and magnetism. Lab exercises reinforce concepts learned by providing experience and troubleshooting opportunities. (4/2/0/0), Prereq: ELT-304, MAT-137; Arts & Sciences Elective Code: B

ELT-397 Transform Circuit Analysis 3
Presents the use of Laplace transformers to analyze multiple time constant circuits. (3/0/0/0), Prereq: ELT-341; Coreq: ELT-616; Arts & Sciences Elective Code: B

ELT-400 Local Loop 3
Introduces students to the construction and maintenance of the local loop. Learning activities include termination and equipment for both residential and commercial applications. Other topics covered include voice data, analog and digital circuits. (2/2/0/0), Arts & Sciences Elective Code: B

ELT-402 Introduction to Communication Systems 3
Provides an introduction to the telecommunications industry, including regulating bodies and standards. Technical concepts covered include color code, wire types, terminals and enclosures, connectors and splicing. (2/2/0/0), Arts & Sciences Elective Code: B

ELT-408 Structured Cabling System 3
Introduces the components used in connecting electrical communication devices and systems. Students work with twisted pairs to construct cables used in communication networks. Laboratory experiments are designed to give the student practical experience with cabling and termination. (2/2/0/0), Arts & Sciences Elective Code: B

ELT-427 Telephony Circuits I 3

Covers the theory of telephony circuits. Emphasis is placed on how a telephone functions; analog-to-digital conversion; multiplexing; and transmission of voice, data and video signals. Lab activities reinforce lecture topics. (2/2/0/0), Arts & Sciences Elective Code: B

ELT-428 Telephony Circuits II 3
A continuation of ELT-427. This course expands the analysis of voice, video and data communication circuits. (2/2/0/0), Prereq: ELT-427; Arts & Sciences Elective Code: B

ELT-443 Multiplexing I 3
Introduces the concepts of switching networks and multiple-user communication lines. Topics include common channel signaling, public packet switched networks, integrated digital networks and synchronized optic networks. (2/2/0/0), Arts & Sciences Elective Code: B

ELT-455 Transmission Circuits I 3
Explores in detail the methods of transmitting and receiving voice, data and video signals. The course includes fiber optic, microwave, satellite and data networking forms of transmission. (2/2/0/0), Arts & Sciences Elective Code: B

ELT-460 Fiber Optics 3
Covers the theory and application of fiber optic principles and devices. Topics include performance comparisons of specific systems, noise analysis and receive sensitivity. (2/2/0/0), Arts & Sciences Elective Code: B

ELT-500 LAN Design & Protocols 3
Provides the student with a basic understanding of networking. Topics include OSI model and industry standards, networking topologies, IP addressing with a subnet mask, networking components and basic network design. (2/2/0/0), Prereq: NET-154; Arts & Sciences Elective Code: B

ELT-506 Router Basics 3
Introduces students to routers, setup, configuration and management of using routers in a network environment. (2/2/0/0), Prereq: ELT-500; Arts & Sciences Elective Code: B

ELT-516 Solid State Circuits 2
Continues the study of the transistor amplifier. Covers advanced small-signal, large-signal and operational amplifiers. Learning activities are supplemented by laboratory exercises on the various amplifier circuits. (1/2/0/0), Arts & Sciences Elective Code: B

ELT-517 Active Devices I: Transistor Amplifiers 6
Presents an analytical approach with laboratory and computer-simulation exercises to the design and troubleshooting of transistor amplifiers. Topics include BJTs, FETs, small signal/power

amplifiers and frequency response. 4/4/0/0), Prereq: ELT-277; Coreq: ELT-341, MAT-746; Arts & Sciences Elective Code: B

ELT-518 Active Devices II: Operational Amplifiers 3
Presents an analytical approach with laboratory and computer-simulation exercises to the design and troubleshooting of operational amplifier circuits. The four basic types of negative feedback are extensively examined. Topics include voltage amplifiers, comparators, analog-to-digital conversion, waveshaping and active filters. (2/2/0/0), Prereq: ELT-517; Arts & Sciences Elective Code: B

ELT-520 Communication Electronics I 4
Provides students a background necessary for working with systems and circuits used in today's communications industry. Major topics are: signal representations, block diagrams, amplitude modulation, single sideband, frequency and phase modulation, time division multiplexing and frequency division multiplexing. (3/2/0/0), Prereq: ELT-518; Arts & Sciences Elective Code: B

ELT-521 Communication Electronics II 4
Continues Communication Electronics I. Major topics are: antennas, transmission lines, propagation of electromagnetic waves, waveguides, FM stereo multiplex, color television and other communication electronics. (3/2/0/0), Prereq: ELT-520; Arts & Sciences Elective Code: B

ELT-619 Microprocessors I 4
Studies counters, shift registers, memory, storage, digital signal processing and microprocessors. (3/2/0/0), Prereq: ELT-309; Arts & Sciences Elective Code: B

ELT-621 Microprocessors II 4
Introduces software engineering through a combination of C programming language, robotics and version control software. Extensive laboratory sessions using C and robotics will enhance understanding. (3/2/0/0), Prereq: ELT-616; Arts & Sciences Elective Code: B

ELT-726 Industrial Drives and Devices Systems and Controls 3
Covers advanced PLC programming, sensing devices and industrial motor drives. Enforces industrial automation concepts through lab exercises with the Mechatronics trainer, which applies PLCs, motion control, robotics and fluid power technologies. (2/2/0/0), Prereq: ELT-211; Arts & Sciences Elective Code: B

ELT-795 Fundamentals of Fluid Power 5
Familiarizes students with basic hydraulic systems. Includes common components and applications, theory of operation and basic troubleshooting techniques. Course theory is supplemented with laboratory experiments. (4/2/0/0), Prereq: MAT-718; Arts & Sciences Elective Code: B

.....**ELT-845 Design Projects.**.....3.

Course Descriptions

Provides students experience in individually designing subsystems and in working as part of a design group where each student has specific responsibilities toward achieving the overall goal of designing, building, troubleshooting and testing a complex electronic system. (2/2/0/0), Coreq: ELT-521; Arts & Sciences Elective Code: B

ELT-852 Air Conditioning and Refrigeration I 5
Familiarizes students with basic refrigeration terms, basic components, refrigerants and specialized equipment used to service refrigeration or air conditioning systems. Practical skills are obtained in laboratory exercises. (4/2/0/0), Prereq: ELT-211, PHY-180; Arts & Sciences Elective Code: B

ELT-853 Air Conditioning and Refrigeration II 10
Covers domestic and light commercial refrigeration, air conditioning, heating systems and heat pumps in theory and labs. Provides students with extensive experience in system troubleshooting. (8/4/0/0), Prereq: ELT-852; Arts & Sciences Elective Code: B

ELT-856 Communication Projects 3
Covers projects related to building an oscillator, an AM generator, a balanced modulator and an FM generator. Other related projects may be assigned as time permits. (1/4/0/0), Prereq: ELT-518; Coreq: ELT-520; Arts & Sciences Elective Code: B

ELT-860 Heating, Vent, and Air Conditioning Systems and Controls 6
Provides the student with working knowledge of commercial air handling units and heating/cooling systems. Pneumatic environmental controls application, calibration and troubleshooting are also covered in theory and laboratory exercises. (4/4/0/0), Prereq: ELT-853; Arts & Sciences Elective Code: B

ELT-880 Telecommunications Internship 3
Provides an on-site job experience for the student. Students are exposed to telecommunications equipment and systems in a typical work environment. (0/0/0/12), Arts & Sciences Elective Code: B

ELT-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ELT-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences

Elective Code: A; Comments: Permission of instructor, dean

EMS: EMERGENCY MEDICAL SERVICES

EMS-233 Emergency Medical Technician Basic Theory 6.5

Develops knowledge and skills in providing basic life support management of medical and traumatic emergencies. Focuses on patient assessment and history taking and management of cardiopulmonary, medical, behavioral and environmental emergencies, and childbirth and pediatrics. (6/1/0/0), Arts & Sciences Elective Code: B; Comments: Current certification in CPR for health care providers is required

EMS-235 Emergency Medical Technician Basic Practical Applications 0.5

Provides opportunities for students to practice patient care under supervision in pre-hospital and emergency department settings. (0/0/1.5/0), Coreq: EMS-233; Arts & Sciences Elective Code: B

EMS-640 EMS Operations 1

Provides discussion and demonstration of proper documentation in EMS, emergency vehicle operations and non-patient care aspects of EMS. (1/0/0/0), Coreq: EMS-641; Arts & Sciences Elective Code: B

EMS-641 Introduction to Paramedicine 2

Provides an overview of paramedic roles and responsibilities and the emergency medical services system. Includes discussion of medicolegal and ethical issues in EMS, agents of trauma and disease, and career opportunities for paramedics. (2/0/0/0), Prereq: EMS-233, EMS-235, HSC-117; Coreq: EMS-640; Arts & Sciences Elective Code: B; Comments: Need to hold a current EMT-B Iowa Certification

EMS-642 Pharmacology for Paramedicine 3

Provides an introduction to drug classifications, mechanism of action and metabolism. Discusses indications, contraindications, dosages, routes of administration and side effects of drugs administered by the paramedic. (3/0/0/0), Prereq: BIO-161, MAT-731; Arts & Sciences Elective Code: B

EMS-643 Cardiorespiratory Paramedicine 3

Provides lecture, discussion and case-based teaching in the pathophysiology, recognition, and advanced life support of cardiovascular and respiratory emergencies and shock. (3/0/0/0), Prereq: BIO-181, EMS-641, EMS-642; Arts & Sciences Elective Code: B

EMS-644 Paramedic Clinical I 3

Provides opportunities for observation and supervised participation in the delivery of

advanced life support in pre-hospital and emergency department settings. (0/0/9/0), Prereq: EMS-640, EMS-641, EMS-642; Coreq: EMS-645; Arts & Sciences Elective Code: B

EMS-645 Paramedic I 2.5

Provides scenario-based teaching and student practice in techniques of assessment and management of patients with cardiovascular and respiratory emergencies. This course includes ACLS certification. (0.5/4/0/0), Prereq: EMS-640, EMS-641, EMS-642; Coreq: EMS-643, EMS-644; Arts & Sciences Elective Code: B

EMS-646 Paramedic Clinical II 4

Provides opportunities for observation and supervised practice of patient assessment and management in various settings. (0/0/12/0), Prereq: EMS-644; Coreq: EMS-647, EMS-648, EMS-649; Arts & Sciences Elective Code: B

EMS-647 Paramedic II 3.5

Provides demonstration and scenario-based practice of assessment and management of trauma, medical, psychological, pediatric, geriatric and obstetric patients. Includes PALS and PHTLS certification. (1/5/0/0), Prereq: EMS-645; Coreq: EMS-646, EMS-648, EMS-649; Arts & Sciences Elective Code: B

EMS-648 Special Patient Populations in Emergency Medical Services 4

Provides lecture-discussion and case-based teaching of EMS, assessment and management of emergencies specific to pediatric, geriatric, disabled and obstetric patient populations. Includes GEMS certification. (4/0/0/0), Prereq: EMS-643; Coreq: EMS-646, EMS-647, EMS-649; Arts & Sciences Elective Code: B

EMS-649 Trauma and Environmental Emergencies 4

Provides lecture-discussion and case-based teaching in the kinematics of trauma, pathophysiology of shock and trauma, and techniques of trauma management. Discussion of identification and management of environmental emergencies including heat and cold, barotrauma, altitude, radiation, hazardous materials and drowning emergencies. Includes PEPP certification. (4/0/0/0), Prereq: EMS-643; Coreq: EMS-646, EMS-647, EMS-648; Arts & Sciences Elective Code: B

EMS-650 Medical and Psychological Emergencies 4

Lecture and case-based teaching in the pathophysiology, recognition and advanced life support assessment and management of emergencies involving the nervous, endocrine,

renal, and gastrointestinal systems. Assessment and intervention in psychological emergencies. Includes AMLS certification. (4/0/0/0), Prereq: EMS-643, EMS-648; Coreq: EMS-651, EMS-652; Arts & Sciences Elective Code: B

EMS-651 Paramedic Fieldwork 4
Provides opportunities for guided paramedic practice and evaluation in the pre-hospital setting. Students are expected to achieve increasing independence as paramedic level practitioners. The student must complete a prescribed number of patient contacts as team leader. (0/0/12/0), Prereq: EMS-646; Coreq: EMS-652; Arts & Sciences Elective Code: B

EMS-652 Paramedic Clinical III 5
Provides opportunities for guided paramedic practice and evaluation in hospital clinical environments. Also includes biweekly lab sessions to prepare for the NREMT paramedic practical examination for certification. (0/2/12/0), Prereq: EMS-646; Coreq: EMS-650, EMS-651; Arts & Sciences Elective Code: B

EMS-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

EMS-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

END: ELECTRONEURODIAGNOSTIC

END-100 Introduction to Electroneurodiagnostics 2.5
Provides an introduction to basic electroencephalographic concepts and techniques. Instrumentation is demonstrated in the classroom and hands-on experience is provided in the laboratory. (1/3/0/0), Coreq: BIO-161, HSC-107, HSC-117, HSC-210, HSC-211; Arts & Sciences Elective Code: B

END-200 Applied Electronics and Instrumentation 1.5
Includes electronics and instrumentation associated with the conventional electroencephalograph: the power supply, contribution of electrodes, differential amplifier concepts, filters (low frequency, high frequency and 60-hertz filter), the writer unit, electrical

output, electrical safety and standards for clinical electroencephalographs. Also covers ambulatory monitoring and digital electroencephalography. (1/1/0/0), Coreq: BIO-181, END-310, END-330; Arts & Sciences Elective Code: B

END-310 Electroneurodiagnostic Technical Science 7
Provides theory and application of electrical concepts, recording techniques, data analysis and description. (2/6/6/0), Prereq: BIO-161, END-100; Coreq: BIO-181, END-200, END-330; Arts & Sciences Elective Code: B

END-330 Electroneurodiagnostic Clinical Science 2
Introduces students to electroneurodiagnosis, neurophysiology, functional neuroanatomy, normal and abnormal conditions, and correlates. Includes electroencephalographic signs of cerebral disorders. Studies specific neurological disease entities; integrates EEG patterns for cerebral disorders and diagnosis. (2/0/0/0), Prereq: BIO-161, END-100; Coreq: BIO-181, END-200, END-310; Arts & Sciences Elective Code: B

END-400 Evoked Potentials I 1
Provides evoked potential instrumentation: EP history, signal averaging, statistics, A/D converter, signal averages, amplifiers, filters and stimulators. Includes recording evoked potentials from volunteers and observing the effect of different variables. (1/0/0/0), Prereq: END-200, END-310, END-330; Coreq: END-810; Arts & Sciences Elective Code: B

END-420 Evoked Potentials II 2
Provides introduction in somatosensory, visual and brainstem auditory evoked responses. Laboratory sessions provide practical application and evaluation of EP data. (1/2/0/0), Prereq: END-400, END-810; Coreq: END-830; Arts & Sciences Elective Code: B

END-810 Electroneurodiagnostic Clinic I 6
Focuses on clinical application of basic EEG techniques according to lab protocol under direct supervision of staff. Record review with physicians and correlative seminars are included. (1/0/15/0), Prereq: END-200, END-310, END-330; Coreq: END-400; Arts & Sciences Elective Code: B

END-830 Electroneurodiagnostic Clinic II 7.5
Provides continued clinical recording techniques including a broad patient population and procedure range. Record review with physicians and correlative seminars are included. (1/0/19.5/0), Prereq: END-400, END-810; Coreq: END-420; Arts & Sciences Elective Code: B

END-850 Electroneurodiagnostic Clinic III 5.5
Provides clinical practice in performing electroencephalograms, evoked potentials, intraoperative monitoring and epilepsy. Record and review with physicians and correlative

seminars are included. (1/1/12/0), Prereq: END-420, END-830; Coreq: END-870; Arts & Sciences Elective Code: B

END-870 Sleep Technology 6.5
Provides clinical practice in polysomnography using appropriate techniques according to protocol. Record and review with physicians and correlative seminars are included. (1/1/15/0), Prereq: END-420, END-830; Coreq: END-850; Arts & Sciences Elective Code: B

END-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

END-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

ENG: ENGLISH COMPOSITION

ENG-013 Basic Writing 3
Provides group instruction in basic writing skills: writing to communicate with the reader, sentence and paragraph structure, proofreading for spelling, grammar and punctuation errors. Students in this course should not have previous or concurrent enrollment in Elements of Writing, Composition I and II, College Writing or Workplace Communication. (3/0/0/0), Arts & Sciences Elective Code: D

ENG-027 Basic Essay Writing 1
Introduces students to the concept of writing papers using the five paragraph organization approach. Students in this course should not have previous or concurrent enrollment in Elements of Writing, Composition I and II, College Writing, or Workplace Communication. (0/2/0/0), Arts & Sciences Elective Code: D

ENG-049 College Readiness Experience Writing/ Reading 4
Provides basic writing/reading instruction to determine student readiness for college-level writing and reading courses. (4/0/0/0), Arts & Sciences Elective Code: D

ENG-059 College Prep Writing 3
Provides students with basic skills instruction in a traditional group setting. The curriculum includes two hours of reading and one hour of writing per week. (3/0/0/0), Arts & Sciences Elective Code: B

Course Descriptions

ENG-070 Personal Achievement Writing 1-2

Designed to assess a student's writing strengths and weaknesses. The student receives instruction on an individualized basis in the areas of skill needs while building on skills already mastered. The course is divided into two parts: knowledge about language and experience using the language. The course helps prepare the student to take Elements of Writing and may also be supplemental support for students enrolled in Composition I, Composition II, Workplace Communication or other writing courses. (0/2-4/0/0), Arts & Sciences Elective Code: D

ENG-075 Personal Achievement Reading 1-2

Designed to measure the student's present reading skills and from that measurement provide an individualized program for the improvement of skills. The course is divided into three main areas: pronunciation, vocabulary and comprehension. The reading materials utilized are related to the student's interests. (0/2-4/0/0), Arts & Sciences Elective Code: D

ENG-101 Elements of Writing 3

Develops students' fluency in communication and clarity in thinking through writers' notebooks, expository writing, analytical reading and listening. Students use structured assignments to explore personal goals and values, exercising skills needed for reasoning and writing across the curriculum. (3/0/0/0), Prereq: Qualifying placement score; Arts & Sciences Elective Code: A

ENG-105 Composition I 3

Develops expository writing with emphasis on organization, supporting details, style, vocabulary and library research skills. (3/0/0/0), Prereq: ENG-101 or qualifying placement score; Arts & Sciences Elective Code: A

ENG-106 Composition II 3

Teaches precise and responsible use of research tools. Requires critical analysis of reading materials, audience and self when communicating content material. Develops students' ability to use effective and ethical arguments. (3/0/0/0), Prereq: ENG-105; Arts & Sciences Elective Code: A

ENG-108 Composition II: Technical Writing 3

Provides concepts, principles and practice of writing and analyzing documents in business, science (including health occupations) and industry. Research emphasized. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-150 Fundamentals of English Grammar 3

Reviews English grammatical structure and examines advanced grammatical patterns for both native and non-native speakers of English. Provides practice in using English grammar fluently in writing, reading and speaking.

Emphasizes grammar in application and linguistic analysis of grammar. (3/0/0/0), Arts & Sciences Elective Code: A

ENG-120 College Writing 5

Develops expository writing with emphasis on substance, organization, supporting details, style and vocabulary. Teaches precise and responsible use of research tools. Requires critical analysis of reading materials in curriculum content areas, current issues and literature. Develops students' ability to use ethical and logical argument. (5/0/0/0), Prereq: ENG-101 or qualifying placement score; Arts & Sciences Elective Code: A

ENG-150 Fundamentals of English Grammar 3

Reviews English grammatical structure and examines advanced grammatical patterns for both native and non-native speakers of English. Provides practice in using English grammar fluently in writing, reading and speaking. Emphasizes grammar in application and linguistic analysis of grammar. (3/0/0/0), Arts & Sciences Elective Code: A

ENG-221 Creative Writing 3

Offers students an opportunity to do advanced work in writing short story, poetry, literary nonfiction or play writing. Emphasizes regular workshops with attention to content issues, structures, forms and styles of particular genres. Students read and comment on other students' works as well as published material. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-225 Creative Writing: Poetry 3

Offers a writing workshop devoted to students' poetry. Class time devoted to responding to and revising work, reading and discussing published poetry, and exploring various forms of the poem. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-233 Creative Writing: Short Fiction 3

Offers a writing workshop focused on students' attempts and successes in writing 500- to 3,500-word short stories. Seventy-five percent of class time devoted to drafting, reading and responding to peers' drafts; 25 percent devoted to reading and discussing published short stories and the elements of fiction as they apply to crafting stories. (3/0/0/0), Prereq: ENG-105, ENG-120; Arts & Sciences Elective Code: A

ENG-235 Creative Writing: Playwriting/ Screenwriting 3

Offers a writing workshop for students' playwriting or screenwriting. Class time devoted to reading and responding to students' work, and discussing published and produced plays and screenplays. Homework devoted to drafting and revising and to reading and responding to published and produced plays and screenplays. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-238 Creative Writing: Nonfiction 3

Offers a writing workshop for students' nonfiction: personal essays, memoir, nature writing, literary journalism, or other subgenre of the craft. Class time devoted to reading and responding to classmates' work, discussing published nonfiction and the writing craft. Homework devoted to drafting and revising, and to reading and responding to published nonfiction in a variety of subgenres. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-240 Advanced Creative Writing 3

Offers students an opportunity to do advanced work in fiction, poetry and literary nonfiction, with an eye toward getting something published. Students respond to each other's writing and enlarge their knowledge of the publishing industry. (3/0/0/0), Prereq: ENG-221 or ENG-225 or ENG-233 or ENG-235 or ENG-238; Arts & Sciences Elective Code: A

ENG-245 Advanced Creative Writing: Short Fiction 3

Provides a writing workshop approach to working on students' short fiction. Seventy-five percent of class time is devoted to reading and responding to other students' work and discussing the responses; 25 percent of class time is devoted to discussing already published work. All critiquing based in either New Critical/Elements of Fiction discourse or Reader Response. (3/0/0/0), Prereq: ENG-221 or ENG-233; Arts & Sciences Elective Code: A

ENG-250 Presenting Information on the World Wide Web: Module I 1

This course covers creating a simple Web page, transferring the page to a host site, visual and verbal rhetoric, and basic principles of design. (1/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-251 Presenting Information on the World Wide Web: Module II 1

This course covers advanced Web page and Web site design, the history of the Web, and copyright on the Web. (1/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-252 Presenting Information on the World Wide Web: Module III 1

This course covers advanced Web page and Web site design, hypertext theory, publications on the Web, and the future of the Web. (1/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

ENG-275 Editing a Literary Magazine 3

Provides practical experience in reading and editing literary manuscripts (nonfiction, fiction and poetry). Students design and edit hypothetical magazines using actual student manuscripts and work on preparing an issue of Cedar Valley Divide, Kirkwood's student art and literary magazine. (3/0/0/0), Prereq: ENG-105 or

ENG-120; Arts & Sciences Elective Code: A

ENG-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of an honors faculty member. Requires that student meets honors eligibility criteria. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ENG-928 Independent Study 1-3
Provides opportunity for independent writing projects under the guidance of a faculty member. (1-3/0/0/0), Prereq: ENG-105, ENG-221; Arts & Sciences Elective Code: A; Comments: Permission of instructor.

ENV: ENVIRONMENTAL SCIENCE

ENV-115 Environmental Science 3
Examines environmental issues from a scientific perspective. Topics examined include ecosystems, energy, global warming, ozone depletion, air pollution, water resources, population growth and biodiversity. Students are required to analyze environmental problems and draw conclusions. (3/0/0/0), Arts & Sciences Elective Code: A

ENV-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ENV-928 Independent Study 0.5
Provides students an opportunity to further their studies in environmental science. After consultation with instructor, readings, papers and basic research or other projects may be assigned. (0.5/0/0/0), Arts & Sciences Elective Code: A; Comments: College-level biology or environmental science course or permission of instructor

ESI: INTENSIVE ENGLISH SECOND LANGUAGE

ESI-016 L2 ELA Writing 2
Provides practice in the basic formation of English sentences, paragraphs and reports for non-native speakers of English. Provides practice in structure, and in using English vocabulary in writing. (2/0/0/0), Arts & Sciences Elective Code: D

ESI-018 L2 ELA Grammar 4
Provides practice in the basics of English grammar for non-native speakers of English. Focuses on using English grammar fluently in writing, reading and speaking. (4/0/0/0), Arts &

Sciences Elective Code: D

ESI-019 L2 ELA Listening Skills and Culture 3
Provides beginning-level practice in conversation and listening skills in English for non-native speakers of English. Emphasizes speaking and listening in formal and informal language settings. (3/0/0/0), Arts & Sciences Elective Code: D

ESI-021 L2 ELA Phonetics and Pronunciation 3
Provides practice in English segmentals and intonation of the English language for non-native speakers at the beginning level. Focuses on using segmentals and intonation, in formal and informal language settings. (3/0/0/0), Arts & Sciences Elective Code: D

ESI-023 L2 ELA Reading and Vocabulary 3
Provides practice in reading and vocabulary development at the beginning level for non-native speakers of English. Emphasizes reading skills in academic settings. (3/0/0/0), Arts & Sciences Elective Code: D

ESI-037 L3 ELA Writing 2
Continues practice in the formation of English sentences, paragraphs and reports for non-native speakers of English at a beginning intermediate level. Builds students' writing structure skills, and use of English vocabulary in writing. (2/0/0/0), Prereq: ESI-016; Arts & Sciences Elective Code: D

ESI-038 L3 ELA Grammar 4
Continues practice in English grammar for non-native speakers of English at the beginning intermediate level. Focuses on using English grammar fluently in writing, reading and speaking. (4/0/0/0), Prereq: ESI-018; Arts & Sciences Elective Code: D

ESI-039 L3 ELA Listening Skills, Conversation and Culture 3
Continues practice in conversation and listening skills in English for non-native speakers of English at the beginning intermediate level. Emphasizes speaking and listening in formal and informal language settings. Exposes students to English culture and cultural expectations. (3/0/0/0), Prereq: ESI-019; Arts & Sciences Elective Code: D

ESI-040 L3 ELA Phonetics and Pronunciation 3
Continues practice in English segmental and intonation of the English language for non-native speakers at the beginning intermediate level. Provides practice in using segmentals and intonation, in formal and informal language settings. (3/0/0/0), Prereq: ESI-021; Arts & Sciences Elective Code: D

ESI-042 L3 ELA Reading and Vocabulary 3
Continues practice in reading and vocabulary

development at the beginning intermediate level for non-native speakers of English. Emphasizes reading skills in academic settings. (3/0/0/0), Prereq: ESI-023; Arts & Sciences Elective Code: D

ESI-062 L4 ELA Culture and Conversation 3
Continues practice in conversation in English for non-native speakers of English at the advanced intermediate level. Focuses on speaking, in formal and informal language settings. Exposes students to English culture and cultural expectations in conversation and oral interaction. (3/0/0/0), Prereq: ESI-039; Arts & Sciences Elective Code: D

ESI-063 L4 ELA Writing 3
Continues practice in the formation of English sentences, paragraphs, and reports for non-native speakers of English at an advanced intermediate level. Provides practice in writing structure, and using English vocabulary in writing. Emphasizes academic report structure and conventions. (3/0/0/0), Prereq: ESI-037; Arts & Sciences Elective Code: D

ESI-064 L4 ELA Grammar and Usage 3
Continues practice in English grammar for non-native speakers of English at the advanced intermediate level. Provides practice in using English grammar fluently in writing, reading and speaking. Emphasizes grammar in applications. (3/0/0/0), Prereq: ESI-038; Arts & Sciences Elective Code: D

ESI-068 L4 ELA Reading and Vocabulary 3
Practice in reading and vocabulary development at the advanced intermediate level. Emphasizes more subtle vocabulary and comprehension for academic settings. (3/0/0/0), Prereq: ESI-042; Arts & Sciences Elective Code: D

ESI-069 L4 ELA Presentations 3
Prepares non-native speakers of English for academic communication skills, including presentations. Provides opportunity to practice academic skills, emphasizing presentation and other skills, at the advanced intermediate level. (3/0/0/0), Prereq: ESI-040; Arts & Sciences Elective Code: D

ESI-090 L5 ELA Culture and Conversation 3
Continues practice in conversation in English for non-native speakers of English at the beginning advanced level. Provides practice in speaking in formal and informal language settings. Exposes students to English culture and cultural expectations in conversation and oral interaction. (3/0/0/0), Prereq: ESI-062; Arts & Sciences Elective Code: D

ESI-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than



Course Descriptions

once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ESI-928 Independent Study 1-3

Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-6/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

ESI-949 English Language Acquisition Special Topics 1-12

Develops English language skills in a classroom setting, in reading, writing, communication, grammar and/or for special purposes. (1-12/0/0/0), Arts & Sciences Elective Code: D

EXS: EXERCISE SCIENCE

EXS-280 Exercise Physiology 4

Defines exercise through the study of neuromuscular physiology, metabolism, exercise endocrinology, cardiometabolic response, environmental adaptation and optimized physical performance. Examines physiological response to various modes of exercise through laboratory activities and culminates with an original research project. Intended for students pursuing health-related careers, health pre-professional programs or those who have an interest in the effects of exercise on the human body. (3/2/0/0), Prereq: BIO-173 or both BIO-177 & BIO-180; Arts & Sciences Elective Code: A

FIN: FINANCE

FIN-101 Principles of Banking 3

Presents the fundamentals of bank functions in a descriptive fashion so that beginning bankers can view their chosen profession in a broad perspective. (3/0/0/0), Arts & Sciences Elective Code: A

FIN-110 Money and Banking 3

Presents a fundamental treatment of how money functions in the U.S. and world economies. Topics include the concept of money supply and the role the bank plays as a money creator and participant in the nation's payment mechanism. (3/0/0/0), Arts & Sciences Elective Code: B

FIN-121 Personal Finance 3

Provides a comprehensive examination of the concepts and principles of personal finance and offers solid strategies for successful management and planning. Students learn planning, analyzing and controlling financial resources, and develop the knowledge and skills necessary to take

advantage of favorable financial opportunities, resolve personal financial problems, achieve self-satisfaction and strive towards financial security. (3/0/0/0), Arts & Sciences Elective Code: A

FIN-130 Principles of Finance 3

Examines the tools and techniques used in the world of finance. Students are introduced to basic financial concepts such as time value of money, asset valuation, risk analysis and return on investment. Evaluation and decision-making techniques are used as they pertain to financial management in various business situations. (3/0/0/0), Prereq: ACC-152, MAT-140; Arts & Sciences Elective Code: A

FIN-141 Consumer Lending 3

Examines the role of consumer credit in overall banking operations. Offers an improved understanding of the consumer credit rules and regulations within a bank. (3/0/0/0), Arts & Sciences Elective Code: A

FIN-170 Introduction to Commercial Lending 3

Provides an introductory overview of the commercial lending function. It is divided into four sections: commercial lending overview, the lending process, portfolio management, and regulation and business development. (3/0/0/0), Arts & Sciences Elective Code: B

FIN-178 Residential Mortgage Lending 2

Reviews the steps in originating, processing and closing a mortgage loan. Examines the differences between FHA, VA and conventional loans; key regulations affecting residential mortgages such as Truth-in-Lending and RESPA; and basic features of AMLs, GPMs and other alternative mortgage loans. (2/0/0/0), Arts & Sciences Elective Code: B

FIN-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

FIN-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

FIR: FIRE SCIENCE

FIR-105 Fire Science Career Orientation 2

Provides the student with the knowledge and skills necessary to pursue a career in the fire service. Instructional units include working with paid firefighters on the job. (2/0/0/0), Arts & Sciences Elective Code: B

FIR-110 History and Philosophy of the Fire Service 2

Provides students with an understanding of where the fire service has come from so they can better help steer fire service into the future. Instructional units are facilitated through a guided self-study format. (2/0/0/0), Arts & Sciences Elective Code: B

FIR-125 Fire Behavior and Building Design 3

Studies building construction as it relates to its reaction under fire conditions. Reviews building codes as related to the structural strength of various designs. Qualitative study of chemical and physical aspects of fuels, the combustion process and the products of combustion as these aspects apply to the causes, spread and extinguishing of a fire. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-130 Fundamentals of Fire Prevention 3

Covers the techniques, procedures, regulations and enforcement of codes (fire, building, life safety) in various occupancies. Communication with the property owner on changes to meet code requirements are presented. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-140 Firefighter I - Unit I 2

Helps firefighters or potential firefighters prepare for Firefighter I Certification. Topics include basic firefighting tactics, fire behavior, safety, forcible entry, hose handling, ladders, protective clothing, SCBA Rescue and Ventilation. Completing Skills I does not meet all criteria for testing for FFI Certification. Attendance is mandatory at all sessions. Equivalent to the 24-hour Basic Attack Course. (1/2/0/0), Arts & Sciences Elective Code: B

FIR-141 Firefighter I - Unit II 2

Continues to build on skills taught in Firefighting Skills I. Students learn new skills and advance their previous skills for preparation for the Firefighter I Exam. Topics include fire alarm communication, fire department organization, fire hose, fire stream, water supplies, forcible entry and ventilation, ladders, organization, personal protective equipment and safety. Attendance for all sessions is mandatory. Class is graded on P/F (Pass/Fail) basis. (1/2/0/0), Arts & Sciences Elective Code: B

FIR-142 Firefighter I - Unit III 3

Builds on skills developed in Firefighting Skills I and II. Provides the student with knowledge of the topics covered on the Firefighter I written exam. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-146 Firefighting Tactics and Strategy 3

Studies methods of coordinating personnel, equipment and deploying apparatus on the fire ground. Practical methods of controlling and extinguishing structural and other types of fires

are discussed. Includes simulation exercises. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-150 Fire Detection and Suppression Systems 3

Covers the identification of system elements, the proper type for the occupancy as per code, fire department operations at premises, and inspection practices to ensure the system is operating and installed as required. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-180 Chemistry of Hazardous Materials 3

Covers properties of chemistry in fire service. Types of chemicals, processes and legal requirements are discussed as they pertain to use, storage and transportation of chemicals. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-183 Hazardous Materials Management 3

Discusses the properties of chemically active substances related to hazardous materials. Identifies and demonstrates techniques, methods and strategies to mitigate haz-mat incidents. Covers state and federal laws as they relate to management of hazardous materials. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-280 Instructional Techniques for Fire Service Training 3

Covers concepts and techniques for conducting periodic company-level or small-unit training. The course emphasizes teaching principles applicable to in-service fire and rescue service skills training. Course meets NFPA standard 1041, 1992 version - covers objectives for Fire Instructor I and II as specified in this standard. Successful completion of this course allows the student to meet Iowa Fire Instructor I and Iowa Fire Instructor II course requirements as specified by the certifying agency - Fire Service Institute or Iowa State University. (3/0/0/0), Arts & Sciences Elective Code: B

FIR-289 Firefighter I - Unit IV 2

Prepares and guides the student for the department assignments necessary to become certified as Firefighter I. Requirements include giving a public education presentation and reviewing standard and safe operating procedures of a department. Course also includes CPR certification. Students must pass the Firefighter I exam through the Fire Service Institute to become certified. (2/0/0/0), Arts & Sciences Elective Code: B

FIR-330 Fire Service Company Officer 3

Studies the company officer's role in the fire department. Students examine topics including effective communications, organization and management, resource management, leadership, safety, fire prevention and investigation, and pre-planning. The course is written to meet NFPA 1021, Fire Officer I, 2003 edition. Classroom experience consists of lecture with activities and exercises designed to reinforce the topic. Students are required to complete written assignments throughout the course, designed to meet the

requirements of Fire Officer I. (3/0/0/0), Prereq: FIR-146; Arts & Sciences Elective Code: B

FIR-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

FIR-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

FLF: FOREIGN LANGUAGE-FRENCH

FLF-141 Elementary French I 4

Introduces the 5 Cs of second language acquisition (communication, cultures, connections, comparisons and communities) by developing the fundamental communicative skills of listening, speaking, reading and writing, and providing the opportunity to examine the practices and products of various francophone cultures. Making comparisons and connections between the French and English language, practices, products and people is an important course component. Open to students with little or no previous study of French. (4/0/0/0), Arts & Sciences Elective Code: A

FLF-142 Elementary French II 4

Continues to develop the 5 Cs of second language acquisition (communication, cultures, connections, comparisons, and communities) by improving the fundamental communicative skills of listening, speaking, reading and writing acquired in Elementary French I. Examines the practices and products of francophone cultures. Includes discussion of the comparisons and connections that exist between various francophone cultures and language and our own. (4/0/0/0), Prereq: FLF-141; Arts & Sciences Elective Code: A

FLF-241 Intermediate French I 4

Develops the 5 Cs (communication, cultures, connections, comparisons and communities) by providing intensive practice in the fundamental communicative skills of listening, speaking, reading and writing, with a methodic study of different cultural contexts and a review of the basic grammar. Examines the cultural practices and products of francophone countries. (4/0/0/0), Prereq: FLF-142; Arts & Sciences Elective Code: A

FLF-242 Intermediate French II 4

Continues to develop the 5 Cs (communication, cultures, connections, comparisons and communities) by expanding the repertoire of realia (movies, readings, Internet explorations) and class activities. Provides continuous practice in developing the communicative skills and encourages group discussion about everyday subjects as well as the practices and products of francophone cultures. (4/0/0/0), Prereq: FLF-241; Arts & Sciences Elective Code: A

FLF-924 Honors Project 1

Allows a qualified student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

FLF-928 Independent Study 1-3

Provides for individualized learning beyond courses offered on a regular basis. Students work directly with a faculty member on furthering proficiency in several different areas of the student's own choosing, e.g., reading comprehension, aural/oral proficiency, understanding of civilization and culture, etc. (1-3/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

FLG: FOREIGN LANGUAGE - GERMAN

FLG-141 Elementary German I 4

Develops fundamental skills in German language. Emphasis is on acquiring the proficiency to communicate with the native speaker in everyday situations. (4/0/0/0), Arts & Sciences Elective Code: A

FLG-142 Elementary German II 4

Continues Elementary German I. (4/0/0/0), Prereq: FLG-141; Arts & Sciences Elective Code: A

FLG-241 Intermediate German I 4

Develops the students' ability to communicate in German in a culturally authentic mode. Students learn about the culture of the German-speaking world through authentic materials, discussions of how language and culture function in their own lives, and through activities designed to build skills in reading, writing, speaking and listening. (4/0/0/0), Prereq: FLG-142; Arts & Sciences Elective Code: A

Course Descriptions

FLG-242 Intermediate German II 4
Develops the students' ability to communicate in German in simple to complex language in a culturally authentic mode. Students build upon cultural analysis skills developed in Intermediate German I, to further develop language and cultural competencies. Uses digital video and has a large Web-based component. Expands basic communicative skills in speaking, listening, reading and writing. (4/0/0/0), Prereq: FLG-241; Arts & Sciences Elective Code: A

FLG-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

FLG-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

FLS: FOREIGN LANGUAGE - SPANISH

FLS-101 Spanish for Professionals: Health Care 1
Provides the student with basic knowledge to communicate with Spanish clients. Vocabulary and grammar will be emphasized to effectively communicate with clients in the clinical health setting. (1/0/0/0), Arts & Sciences Elective Code: B

FLS-128 Conversational Spanish 3
Develops conversational skills in the Spanish language. The emphasis is in acquiring proficiency in communicating in Spanish in work situations. Includes activities that promote basic Spanish grammar, specialized and everyday vocabulary and basic understanding of Latin American culture. (2/2/0/0), Arts & Sciences Elective Code: B

FLS-141 Elementary Spanish I 4
Develops fundamental skills in the Spanish language. Emphasis is on acquiring the proficiency to communicate with the native speaker in everyday situations. Includes activities that promote an understanding and knowledge of the Spanish-speaking peoples and their culture. (4/0/0/0), Arts & Sciences Elective Code: A

FLS-142 Elementary Spanish II 4
Allows the student to communicate with others on subjects of daily common experience in most informal and a limited number of formal conversations on activities related to family, work, health, friends, leisure activities, social life, environment, etc. The vocabulary used in this

course is non-specialized, containing everyday words as well as frequently used expressions, all within a cultural context. Cultural facts from Hispanic and Latin American cultures will also be presented in the classroom. (4/0/0/0), Prereq: FLS-141; Arts & Sciences Elective Code: A

FLS-241 Intermediate Spanish I 4
Provides practice of language beyond the controlled situations of the elementary course. Develops fundamental skills in Spanish through activities aimed at expressing original ideas and conveying messages in correct Spanish with the aid of authentic resources. Class activities offer advanced training in listening, speaking, reading, writing, and understanding the cultures of Spanish-speaking countries. Grammar study includes a review of previously introduced topics as well as new ones. (4/0/0/0), Prereq: FLS-142; Arts & Sciences Elective Code: A

FLS-242 Intermediate Spanish II 4
Enables students to continue to develop all communication skills, using primarily materials from literature, contemporary newspapers and magazines aimed at providing a better understanding of the Hispanic and Latin cultures and pertinent current issues. Class activities include pronunciation exercises, some grammar review and class discussion that promotes spontaneous conversation. (4/0/0/0), Prereq: FLS-241; Arts & Sciences Elective Code: A

FLS-266 Advanced Spanish: Latin American and Spanish Culture 3
Develops communication skills through the study of the history, literature and cultures of the Spanish-speaking countries of the world. May emphasize a specific area (Spain, Mexico, Central America, South America) or explore common aspects of all or several areas. Conducted in Spanish. May be repeated (elective credit second time). (3/0/0/0), Prereq: FLS-232; Arts & Sciences Elective Code: A

FLS-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

FLS-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of

instructor, dean

GEO: GEOGRAPHY

GEO-115 Human Geography 3
Emphasizes the application of geographic principles to contemporary social, economic and political problems. (3/0/0/0), Arts & Sciences Elective Code: A

GEO-121 World Regional Geography 3
Surveys the world, region by region, emphasizing physical characteristics, patterns over time and population concerns. Examines current geographical issues, including economics, politics, socio-cultural affairs and environmental factors. Studies sub-regions: their uniqueness, their future, how people shape environments and how environments shape cultures. (3/0/0/0), Arts & Sciences Elective Code: A

GEO-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

GEO-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

GIS: GEOGRAPHIC INFORMATION SYSTEMS

GIS-110 Survey of Geographic Information Systems 3
Introduces the applications of geospatial technologies, including Global Positioning Systems (GPS) and Geographic Information Systems (GIS). Explores global reference and coordinate systems, maps and generalization, as well as types of maps. Studies the basic components and operation of GPS and GIS to develop an awareness of how they are used for data collection, analysis and decision-making in business, government and industry. (2/2/0/0), Arts & Sciences Elective Code: A; Comments: Understanding of basic computer literacy concepts and experience using Windows operating system and applications software. CSC-110 Intro to Computers is recommended.

GIS-112 Introduction to ArcGIS 3
Provides an overview of the applications of geographic information systems (GIS). Focuses on ArcView, the software used to create, analyze, and display spatial data in a geographic

information system. Hands-on computer exercises provide practical experience in several disciplines including city/government planning, site location and transportation. (2/2/0/0), Coreq: CSC-110; Arts & Sciences Elective Code: B

GIS-120 Geospatial Data Collection 3
Provides detailed instruction and hands-on use of GPS receivers to collect field data. Students locate and download data from multiple sources and understand the steps necessary to use the data in GIS software. Introduces spatial analysis, remote sensing and Landsat imagery, raster data and map algebra. (2/2/0/0), Arts & Sciences Elective Code: B

GIS-122 Governmental GIS 3
Introduces mapping concepts employed in city and county offices. Students learn to read legal documents, to use coordinate geometry in order to enter parcel data and how to import CAD files into GIS. Includes the use of topological relationships and GIS in land, transportation and environmental operations of local, county, state and federal government offices. (2/2/0/0), Prereq: GIS-110, GIS-112; Arts & Sciences Elective Code: B

GIS-130 Remote Sensing 3
Introduces students to working with remotely sensed data. Students study how Landsat imagery is created to develop an understanding of how to read the images. Uses imagery software to analyze images, classify pixels, and understand how remotely sensed data is used in monitoring and managing the earth's resources. (2/2/0/0), Prereq: GIS-110, GIS-112; Arts & Sciences Elective Code: B

GIS-210 Mapping for Decision Making 3
Provides a background in analyzing spatial data to make decisions. Students assemble data layers, discern patterns in the layers, construct maps necessary to analyze the data, and arrive at new information. (2/2/0/0), Prereq: GIS-110, GIS-112; Arts & Sciences Elective Code: A

GIS-212 Managing GIS Projects 3
Covers the steps necessary to develop and follow a project through to completion. Includes theories of management, tracking data and verifying that the completed task meets its intended purpose. Students work in teams to develop a project from start to finish. (2/2/0/0), Arts & Sciences Elective Code: A

GIS-214 Internet Mapping Services 3
Introduces practical applications of Internet Mapping Services. Presents principles of cartography, data management and upkeep. Focuses on the uses of maps as user interfaces, the interactive elements of online maps, and creating and implementing online maps for specific audiences. (2/2/0/0), Prereq: GIS-110, GIS-112; Arts & Sciences Elective Code: B

GIS-220 GIS Field Study 3
Introduces the field of remote sensing. By analyzing remotely-sensed data in the lab and traveling to the site location, students describe the difference between real phenomena and how it is represented on a Landsat image. Uses aerial photography, topographic maps and Lidar Landsat imagery. Field work locations are determined annually by the GIS staff. (1/4/0/0), Arts & Sciences Elective Code: B

GIS-240 GIS Projects 3
Provides realistic experience in working on a GIS project. Students work with actual clients to complete a GIS project. Covers project communication, documentation and accuracy. Students conduct themselves as GIS professionals, meeting all necessary deadlines and goals communicated by the client. (3/0/0/0), Prereq: GIS-110, GIS-112, GIS-122; Arts & Sciences Elective Code: B

GRA: GRAPHIC COMMUNICATIONS

GRA-101 Survey of Graphic Communications 3
Introduces the graphic communication industry, including traditional layout and design techniques, electronic/traditional publishing, bindery operations and Internet design basics. Introduces the fundamental processes used in the graphic communication industry. Covers two-dimensional design concepts and production preparation. Explores current graphic design computer applications, as well as the Apple OS as it relates to its interaction with printers, servers and design. (1/4/0/0), Arts & Sciences Elective Code: B

GRA-127 Illustrator I 3
Introduces Adobe Illustrator and its application in graphic communication. Learning activities include Adobe Illustrator tools as they apply to object (vector) based files, as well as Adobe Illustrator filters and layers. Students learn basic drawing and tracing techniques, creating line art, logos and learning how to simplify art work through stylizing. Creative use of type is also explored. Students learn how to set up color for reproduction. They also learn how to save and manage files created using these programs, as well as how these files interact with page layout and paint (raster) programs. (2/2/0/0), Prereq: GRA-101; Arts & Sciences Elective Code: B

GRA-128 Illustrator II 3
Continues to explore vector drawing tools as they apply to object based files using the program Adobe Illustrator. Learning activities include more advanced drawing techniques, creating art of medium to high quality, and continue learning how to simplify artwork through stylizing. Students learn how to set up color for reproduction. They also learn how to save and manage files created using these programs, as well as how these files interact with page layout

and paint (raster) programs. (2/2/0/0), Prereq: GRA-127, GRA-131; Arts & Sciences Elective Code: B

GRA-131 Digital Layout 3
Provides working knowledge of the InDesign page layout program and its use in creating effective page layouts combining graphics and type. Topics include the toolbox and tool usage, importing and editing text and graphics, master pages, use of styles, text and paragraph formatting, general layout and design concepts, printing operations, importing graphics and setting up text styles, columns and grids. Students create various single- and spot-color documents including fliers, newsletters and other printed material. (1/4/0/0), Prereq: GRA-101; Arts & Sciences Elective Code: B

GRA-132 Digital Layout II 3
Expands knowledge of page layout programs using InDesign, including page setup, text and graphic frames, links management, use of spot and process colors within publications, how to color separate files, general layout and design concepts, and printing operations. Continues use of master pages, use of styles, text and paragraph formatting and effective use of type and graphics. (2/2/0/0), Prereq: GRA-128, GRA-131; Arts & Sciences Elective Code: B

GRA-140 Digital Imaging 3
Introduces electronic image editing software using Photoshop. Concepts covered include basic scanning techniques for grayscale and line art images; proper manipulation procedures required for various output sources, including input and output resolutions, file size, multiple file-saving formats, simple image enhancements and creating duo-tones; and creative application of Photoshop. (2/2/0/0), Prereq: GRA-101; Arts & Sciences Elective Code: B

GRA-141 Digital Imaging II 3
Introduces color correction theory and practices, image enhancements using third-party plug-ins, effective use of layers, paths, adding type to images and color correction controls to create visually effective images. Strong emphasis is placed on properly preparing images for printing and publishing. Use of Photoshop for Web page design is also explored. (2/2/0/0), Prereq: GRA-140; Arts & Sciences Elective Code: B

GRA-151 Web Design 3
Provides students with practical applications and the theory of Web page construction using Adobe GoLive software. Learning activities include



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Internet basics, basic HTML language, planning your Web page and constructing your own Web page. (2/2/0/0), Arts & Sciences Elective Code: B

GRA-152 Web Design II 4.5
Provides students with the knowledge to design a Web page using DHTML and other resources to incorporate animation and interactivity on their Web pages. Also covered are building forms and utilizing JavaScript on Web pages. Students are responsible for designing all elements of their own Web page. (3/3/0/0), Prereq: GRA-140, GRA-151; Arts & Sciences Elective Code: B

GRA-192 Production Techniques 4.5
Provides real and realistic hands-on experience, building on skills learned to date. Covers pre- and post-production project issues for both print and Web. Emphasizes managing multiple projects and deadlines, and working with other people, in part through a storefront scenario. Students work with actual clients in a team-based (company) operation, present packaging design and production, then practice design, output and proofing options. Students develop and present an analog portfolio of their graphic design and production skills. (1/7/0/0), Prereq: GRA-127, GRA-132; Arts & Sciences Elective Code: B

GRA-195 Introduction to Web Media 3
Provides introductory skills in Web content development and interactivity using Flash, Illustrator and Photoshop as the primary tools. Students work through textbook-based Web content scenarios to develop Web design concepts, layouts, navigation and interactivity, as well as Flash-based Web animations. Students develop interactive content and design to be used in their final (GRA-151) Web Design project. (2/2/0/0), Prereq: GRA-127, GRA-131; Coreq: GRA-151; Arts & Sciences Elective Code: B

GRA-199 Graphic Communication Job Shadowing 1
Provides an opportunity to receive experience through job shadowing sessions with an approved graphic communications business. Students receive valuable learning experience in area businesses. (0.5/1/0/0), Arts & Sciences Elective Code: B

GRA-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than

once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

GRA-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

HCM: HOSPITALITY, CULINARY, MANAGEMENT

HCM-100 Sanitation & Safety 2
Studies basic principles of bacteriology, food-borne illness, sanitation, workplace safety, personal hygiene, food security, health regulations and inspections. The use, cleaning and maintenance of equipment is also stressed. Upon successful performance on a national test, students are certified by the Educational Foundation of the National Restaurant Association. (2/0/0/0), Arts & Sciences Elective Code: B

HCM-117 Bakery I (Lab) 2
Provides lab experience in preparing bakery products. Yeast products, quick breads, pies, cakes, pastry doughs, custards, puddings and cookies are emphasized. Bakery procedures, scaling techniques, weights, measures, use and care of equipment, sanitation and safety, work simplification, costing, and the production of the highest quality bakery products are stressed. (0/4/0/0), Coreq: HCM-100; Arts & Sciences Elective Code: B

HCM-122 International Breads 2
Provides lab experiences in preparing yeast and unleavened breads typical of international bread traditions. Preparation procedures, use and care of equipment, sanitation and safety, work simplification, identification of special ingredients and traditional shaping techniques, costing, and selection of ingredients are included in the course. Research into the history and traditional uses of breads is included. (0/4/0/0), Prereq: HCM-117; Arts & Sciences Elective Code: B

HCM-123 International Pastries 2
Provides lab experience in preparing pastries representative of cultural traditions of the world. Bakery procedures, use and care of equipment, sanitation and safety, work simplification, costing, and production of quality pastry items are stressed. Research into cuisines of the world is also included in the course. (0/4/0/0), Prereq: HCM-117; Arts & Sciences Elective Code: B

HCM-125 Basic Cake Decorating 1
Provides instruction for the beginning cake decorator. Practical border work, cake writing, figure piping, flowers and wedding cake assembly

are emphasized. Students utilize decorators' tools, learn basic decorating and designing, and develop artistic creativity. Equipment required. (0/2/0/0), Arts & Sciences Elective Code: B

HCM-126 Science of Baking 3
Introduces the principles of food science as applied to baking and pastry arts. Explores the functions of bakery ingredients using scientific methods. Create, compare and revise recipes with an emphasis in nutrition. Practice skills in sensory evaluation of food. Cost and analyze nutrient content of recipes. Field trips are required. (3/0/0/0), Arts & Sciences Elective Code: B

HCM-127 Advanced Cake Decorating 1
Provides advanced skills in the art of cake decorating, including fondant icing and its use in the baking industry; designing tiered and multi-leveled cakes; and making decorations and floral arrangements with gum. (0/2/0/0), Prereq: HCM-125; Arts & Sciences Elective Code: B; Comments: Equipment needed.

HCM-130 Plated Desserts 1
Provides experience in the preparation of fine dining style-plated desserts. Students rotate through different dessert components making sauces, pastries, mousses, fillings, cakes, and ice creams. Students learn how to work with chocolate, pastillage, cooked sugar and pastry garnishes, adding extra dimension to desserts. Each week the class focuses on new desserts, learning how to plate and serve sweet works of art. (0/2/0/0), Prereq: HCM-117; Arts & Sciences Elective Code: B

HCM-147 Food Production I (Lab) 4
Introduces fundamental skills and techniques of basic cookery. Students develop basic food handling competencies, and work with herbs, spices, dairy, eggs, fruits, vegetables, starches, salad, stocks, soup, sauces, meats, poultry and seafood. Students learn kitchen procedures, use and care of equipment, sanitation and safety, efficient work methods and the production of quality menu items. (0/8/0/0), Coreq: HCM-100, HCM-324; Arts & Sciences Elective Code: B

HCM-148 Food Fundamentals (Lec) 3
Studies the composition of foods and the scientific principles involved in food preparation. Learns basic cooking methods and techniques, functions of ingredients, and quality standards for food. Practice recipe writing and math skills related to recipes. Field trips are required. (3/0/0/0), Arts & Sciences Elective Code: B

HCM-161 Stocks and Sauces 2
Reviews and improves the student's techniques in making stocks, sauces and a variety of condiments. Classic French method and techniques are stressed. Students receive hands-on experience to become competent in the art of

making sauces. (1/2/0/0), Prereq: HCM-174; Arts & Sciences Elective Code: B

HCM-162 Advanced Culinary Skills 2
Re-emphasizes selected culinary skills such as braising, broiling, sautéing and meat fabrication. Allows the student to practice and perfect basic skills while utilizing unusual ingredients. (1/2/0/0), Prereq: HCM-174; Arts & Sciences Elective Code: B

HCM-166 Culinary Arts (Lab) 4
Emphasizes advanced culinary competencies in the preparation of haute cuisine. Students rotate through various stations: saute, saucier, grill, patisserie, garde manger, tableside and entremetier. Focuses on proper kitchen procedures, use and care of equipment, sanitation and safety, and efficient work methods. Management and human relations skills, production of quality menu items, calculating food costs and purchasing and storage requirements are emphasized. (0/8/0/0), Prereq: HCM-117, HCM-148, HCM-174, HCM-233, HCM-251; Coreq: HCM-177, HCM-195, HCM-204; Arts & Sciences Elective Code: B

HCM-174 International Cuisine (Lab) 4
Provides quality food production experience and practice in reading recipes and preparing a variety of dishes with varying levels of difficulty. Introduces international cuisines and the ingredients and preparation methods used. Students provide their own recipes and work independently in lab. Focuses on proper kitchen procedures, use and care of equipment, sanitation and safety, and efficient work methods. (0/8/0/0), Prereq: HCM-147; Arts & Sciences Elective Code: B

HCM-177 Culinary Arts (Lec) 1
Students meet each week to update progress in the restaurant, take quizzes, lecture on relevant materials and discuss service issues. Topics to be covered include vegetarian cuisine, the brigade system, French terminology, recipe costing and sanitation. This lecture course will follow along with Culinary Arts (HCM-166). (1/0/0/0), Prereq: HCM-117, HCM-148, HCM-174, HCM-233, HCM-251; Coreq: HCM-166; Arts & Sciences Elective Code: B

HCM-195 Dining Room Techniques (Lec) 1
Defines and describes points of service that will be applied by the student in the student-run dining room and banquet functions. In addition, this class discusses sales techniques, cash handling standards, methods of customer satisfaction, delegation procedures and other topics related to the smooth operation of any restaurant or catered event. This course is designed to prepare students to succeed in entry-level service positions in the hospitality industry. (1/0/0/0), Coreq: HCM-204; Arts & Sciences Elective Code: B

HCM-204 Dining Room Techniques (Lab) 4

Provides students exposure to service techniques – suggestive selling, human relations, marketing, controlling cash, record keeping – in the program’s dining facilities. The course is designed for individuals employed in the field or for those who are seeking employment as wait staff personnel. (0/8/0/0), Coreq: HCM-195; Arts & Sciences Elective Code: B

HCM-213 Dining Management (Lec) 4
Allows students to perform as supervisors and managers in the kitchen and dining room facilities, and also allows them to apply management techniques and theories in working with others to create a successful restaurant environment. Emphasis is placed upon computer application in analyzing food and beverage costs, labor costs and other operating costs as applied to the student-run restaurant. (2/4/0/0), Prereq: ACC-111, HCM-195, HCM-204; Coreq: HCM-330; Arts & Sciences Elective Code: A

HCM-233 Menu Planning & Nutrition 3
Studies the principles of planning menus, considering population groups, types of food service operations, kitchen management, nutrition and writing menus. Review basic nutritional concepts in relation to current health concerns. Practice recipe and menu modifications to improve nutrition. Design menu covers. Field trips are required. (3/0/0/0), Arts & Sciences Elective Code: B

HCM-251 Purchasing/Cost Control (Lec) 3
Studies the selection, purchasing, receiving and storage of food and supplies. Practices specification writing and recipe costing. Emphasizes cost control methods. Field trips are required. (3/0/0/0), Prereq: MAT-700; Arts & Sciences Elective Code: B

HCM-270 Garde Manger (Lab/Lec) 2
Emphasizes cold food (garde manger) preparation and presentation techniques. Chaud-froid, aspics, pates, galantines, ballatine, hors d’oeuvre, charcuterie and food decorating are emphasized. Students plan, prepare, present and serve a garde manger dinner. (0/4/0/0), Prereq: HCM-166, HCM-177; Arts & Sciences Elective Code: B

HCM-271 Artistic Display 1
Provides hands-on experience in sculpting and display techniques when working with food mediums such as tallow, salt, bread dough, sugar art, marzipan, chocolate and ice. Art principles, preparation techniques and presentation are also stressed. (0/2/0/0), Arts & Sciences Elective Code: B

HCM-310 Hospitality Law 3
Reviews legal subjects relevant to the hospitality industry. Emphasis on government regulations, food and liquor liability, patron rights and safety, employer/employee rights and responsibilities, the court system, and business management. (3/0/0/0), Arts & Sciences Elective Code: B

HCM-315 Introduction to Wines and Spirits 2
Studies alcoholic beverage classifications, laws, promotion and service with the emphasis on wines - classifications, characteristics and tastings. Beer making and bar management is included. (2/0/0/0), Arts & Sciences Elective Code: B

HCM-321 Introduction to Hospitality I 0.5
Explores the hospitality industry with an emphasis on institutional food service operations. Continue with career planning, goal setting and portfolio development. Participate in professional and community service activities. (0.5/0/0/0), Prereq: HCM-324; Arts & Sciences Elective Code: B

HCM-322 Intro to Hospitality II 0.5
Explores the hospitality industry with emphasis on restaurants of all kinds, including fine dining, chain restaurants, fast foods and independent restaurants. Continues with career planning, goal setting and portfolio development. Students are introduced to professional organizations, the history of the industry and famous chefs. Opportunities to participate in professional and community service activities are provided. (0.5/0/0/0), Prereq: HCM-321; Arts & Sciences Elective Code: B

HCM-323 Introduction to Hospitality III 0.5
Explores the hospitality industry with emphasis on lodging food service operations. Continues with career planning, goal setting and portfolio development. Explores foods, beverage and lodging sites and resources. Provides opportunities to participate in community service and professional activities. (0.5/0/0/0), Prereq: HCM-322; Arts & Sciences Elective Code: B

HCM-324 College Orientation 1
Provides group orientation and activities for hospitality students enrolled in applied science programs. Review of program requirements, along with department and college policies and procedures. Assistance is given in academic planning, identifying campus resources and how to be a successful student at Kirkwood. Includes introduction of career portfolio development. (1/0/0/0), Arts & Sciences Elective Code: B

HCM-330 Hospitality Personnel Management 3
Introduces the functions of personnel management: planning, communicating, performance evaluation, recruiting, coaching, training, discipline, counseling, termination and labor relations. Management theory and the development of technical, human relations and conceptual skills are reviewed. (3/0/0/0), Arts & Sciences Elective Code: B

HCM-340 Hospitality Events and Catering 4
Applies and refines, in a rigorous and practical setting, competencies mastered in previous course work within the Culinary Arts and Restaurant Management programs. Students will demonstrate front- and back-of-the-house

Course Descriptions

management skills (emphasizing each student's major) as they plan, produce, and successfully execute college catering events. Quality product and service, financial performance, teamwork and customer satisfaction, along with a demonstrated mastery of the refined competencies, will be critical in determining student success. Students must be flexible to attend class during the day, some evenings and some weekends. (2/4/0/0), Arts & Sciences Elective Code: B

HCM-402 Culinary Competition 2
Emphasizes skills and techniques for preparing foods for culinary competitions. American Culinary Federation culinary guidelines are followed. Students prepare showpieces and platters, and participate in culinary shows and competitions. (0/4/0/0), Prereq: HCM-174; Arts & Sciences Elective Code: B

HCM-403 Food and Culture 3
Examines the implications and impact of culture on food, preparation procedures, dining customs and the effect on society, both past and present. Explores the historical and cultural significance of food and eating habits. Industry issues and trends are discussed relative to career opportunities. (3/0/0/0), Arts & Sciences Elective Code: B

HCM-404 Culinary Travel Studies 1-3
Focuses on the history, culture and cuisine of a specific geographic region, with the major emphasis on cuisine. This course is offered for variable credit and includes a study tour of a specific geographic region. May be repeated for credit. (1-3/0/0/0), Arts & Sciences Elective Code: B

HCM-600 Introduction to Lodging Operations 2
Provides students with an overview of the lodging industry and how its functions are organized and operated. Each of the seven traditional disciplines is introduced: general management, hotel sales, financial control, rooms operations, food and beverage operations, human resources, and physical plant maintenance. Business ethics and effective communication are also emphasized. (2/0/0/0), Arts & Sciences Elective Code: B

HCM-601 Introduction to Rooms Operations 3
Focuses on the management of sleeping room operations in lodging establishments. Topics include front desk, communications department, bell stand, housekeeping, reservations and security. This course prepares the student for an internship in a rooms operation. (3/0/0/0), Prereq: HCM-600; Arts & Sciences Elective Code: B

HCM-602 Introduction to Food and Bar Operations 3
Focuses on the management of food and beverage operations in lodging establishments. Topics include food production, stewarding, banquets, dining room, beverage and room service. This

course prepares the student for an internship in a food and beverage operation. (3/0/0/0), Prereq: HCM-600; Arts & Sciences Elective Code: B

HCM-603 Introduction to Hospitality Sales 2
Focuses on the management of the sales effort in lodging establishments. Topics include market segmentation, industry-specific skills and techniques, the importance of product knowledge, catering sales and rooms sales encompassing both groups and the individual traveler. This course prepares the student for an internship in a lodging sales operation. (2/0/0/0), Prereq: HCM-600; Arts & Sciences Elective Code: B

HCM-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

HCM-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

HCR: HEATING AND AIR CONDITIONING

HCR-410 Electrical Applications I 3
Covers general knowledge of basic electrical applications used by industry. Use of basic electrical equipment including multimeters is stressed. Topics include current, voltage, resistance, symbols and basic AC and DC circuits. (2/2/0/0), Arts & Sciences Elective Code: B

HCR-450 Electrical Apps for HVAC II 3
Continues the coverage of electrical applications used by HVAC installers. Students learn a more thorough explanation of voltage and current, including basic measuring techniques and safety concerns. Motors and transformers in their typical applications are also included. (2/2/0/0), Prereq: HCR-410; Arts & Sciences Elective Code: B

HCR-600 Pipe Joining Methods 3
Covers the correct techniques to use when joining pipes. Students learn correct techniques for making a solder joint, a brazed joint and a threaded joint. Alternative techniques are also taught, including flare, crimp and compression.

(1/4/0/0), Arts & Sciences Elective Code: B

HCR-605 HVAC Installation I 4
Provides a comprehensive introduction to designing and installing HVAC systems. Students learn sheet metal fabrication and installation, basic principles of heat transfer, and the basic refrigeration cycle applied to air conditioning. (2/4/0/0), Arts & Sciences Elective Code: B

HCR-610 HVAC Installation II 7
Provides a comprehensive introduction to designing and installing HVAC systems. Other topics covered include refrigerant handling procedures, gas piping and sizing, chimney and vent calculations, and the uniform mechanical code. (3/8/0/0), Prereq: HCR-605; Arts & Sciences Elective Code: B

HCR-710 Fundamentals of Plan and Print Reading 2
Covers the fundamentals of blueprints and floor plans used for common layouts. Includes dimensions, specifications and interpretation of details found on typical sets of plans. (1/2/0/0), Arts & Sciences Elective Code: B

HCR-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

HCR-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

HIS: HISTORY

HIS-121 Ancient Mediterranean World 3
Surveys the cultural, religious, political and social heritage of the ancient Near Eastern people as the foundation of Western civilization. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-122 Europe in the Age of Monarchy 3
Explores the social, cultural, intellectual, economic and political foundations of Western civilization in Europe from the Middle Ages to Absolutism and Constitutionalism. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-123 Europe in the Age of Revolution 3
Studies four revolutions - the Scientific, French, Industrial and 19th Century Liberal revolutions - that changed the traditional Western society into the modern world. (3/0/0/0), Arts & Sciences

Elective Code: A

HIS-124 Europe in the Age of Nationalism 3
Examines themes of modern European civilization. Emphasis is on the development of nationalism, the rise of Communism and Fascism, and the changes in the present society. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-135 Modern World Military History 2
Examines the development of modern warfare from the Napoleonic Era to the present, using a multi-disciplinary approach. Focuses on how national and international politics, technology, social issues, economics, religion, and ideology shape military policy, expectations, outcomes and cultural expressions. Concentrates on key conflicts throughout multiple regions to illustrate the evolving dynamics of strategy and tactics. Discusses warfare's different forms: conventional, guerrilla and nuclear. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-151 U.S. History to 1877 3
Studies the European background, the colonial experience, the revolutionary period and 19th century history to the Civil War. Includes political, economic and social history of this period as well as the development of American thought. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-152 U.S. History Since 1877 3
Studies the period from reconstruction to the present. Emphasis is upon industrialization and its impact; the development of a strong federal government; an aggressive foreign policy; and a growing involvement in an international economy. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-221 Holocaust and Genocide in Memory and Literature 3
Explores the Holocaust and nature and history of anti-Semitism. Analyzes why the Holocaust and Final Solution occurred in Germany. Studies Jewish Resistance. Examines collaboration and resistance between the Nazis and foreign countries. Compares the Holocaust and genocide and extermination of other groups in history. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-254 American Indian History 3
Examines American Indian societies from the colonial era to the present, using a cross-cultural framework focusing on six major geographical areas of the United States: New England and the Northeast, the Southeast, the Great Lakes region, the Plains, the Southwest and the Northwest. Emphasizes American Indian cultures, including religion and socio-political structure. Examines American Indian responses to federal Indian policy, including removal, allotment and termination, as well as present-day issues related to revitalization. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-291 History of Science 3
Covers major aspects of the history of science

from the early modern period into the 20th century. As this is a history course, not a science or technology course, the emphasis is on the historical backgrounds of various scientific ideas. The course focuses on some of the major figures in the development of modern Western science including Newton, Darwin, Faraday and Einstein. (3/0/0/0), Arts & Sciences Elective Code: A

HIS-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contact. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

HIS-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A

HIT: HEALTH INFORMATION TECHNOLOGY

HIT-220 Introduction to Medical Coding 2.5
Studies basic disease and procedural coding of the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). (2.5/0/0/0), Coreq: BIO-168, HIT-360, HSC-115; Arts & Sciences Elective Code: B

HIT-240 Advanced Coding and Classification 3
Continues more complex concepts of disease and procedural coding of the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). Introduces procedural coding utilizing the Current Procedural Terminology, 4th Edition (CPT-4) classification system. Includes practical application of coding inpatient and outpatient records. (2.5/1/0/0), Prereq: BIO-168, HIT-220; Coreq: BIO-173; Arts & Sciences Elective Code: B

HIT-280 CPT-4 Coding 3
Continues more complex concepts of procedural coding utilizing the Current Procedural Terminology, 4th Edition (CPT-4) classification system. Includes practical application of coding outpatient/ambulatory records. (2.5/1/0/0), Prereq: HIT-240; Arts & Sciences Elective Code: B

HIT-291 Reimbursement Methods 2.5
Introduces prospective payment systems for inpatient health care (Diagnosis Related Groups-DRG) and ambulatory health care (Ambulatory Patient Classifications-APC). Explores Local Coverage Determination (LCD) and the Resource Based Relative Value System (RBRVS). Focuses on fraud and abuse issues, coding compliance, and the National Correct Coding Guide. Includes

practical application of diagnosis and procedural coding as well as DRG and APC assignment. (2/1/0/0), Prereq: HIT-240; Arts & Sciences Elective Code: B

HIT-350 Health Information Systems 2.5
Provides an overview of the use of automated information systems in the health care delivery system. Introduces terminology and essential concepts of health information systems and management of data. Examines data integrity and privacy/security issues affecting the access to and use of patient information. (2/1/0/0), Prereq: CSC-110, HIT-360; Arts & Sciences Elective Code: B

HIT-360 Introduction to Health Information Technology 3
Provides an overview of the health information management profession, and the development, content and analysis of medical records in health care settings. Students will learn the importance of health information management in reimbursement and different classification systems. Includes legal issues in medical records, patient confidentiality, form construction and design, numbering systems, indexes, and registries. Explores health information storage and retention systems and computerization of health records. (2/2/0/0), Arts & Sciences Elective Code: B

HIT-420 Legal Aspects of Health Information 2
Includes use of the medical record as a legal document, release of information, consents, the medical record in legal proceedings and an overview of current health legislation. (2/0/0/0), Prereq: HIT-360; Arts & Sciences Elective Code: B

HIT-431 Quality Improvement 3
Focuses on quality assessment and performance improvement in health care settings and the role of health information management professionals in quality improvement, utilization management, credentialing and risk management. Simulations of quality assessment and utilization management functions, the role of peer review organizations and their impact on health information are included. (2/2/0/0), Prereq: HIT-360; Arts & Sciences Elective Code: B

HIT-450 Health Statistics 2
Emphasizes abstracting of medical records and computer input of data. Includes basic arithmetical and statistical principles, hospital statistics and formulas, vital and public health data sources. Discusses presentation of data and data quality. (1/2/0/0), Prereq: HIT-360, MAT-731; Arts & Sciences Elective Code: B

HIT-490 Health Management and Supervision 3.5
Provides basic principles of personnel supervision including developments and considerations vital to the performances of supervisors in today's health care environment. (3/1/0/0), Prereq: HIT-552; Arts & Sciences Elective Code: B

Course Descriptions

HIT-495 Medical Office Management 2.5

Present concepts and procedures in relation to medical office management, phone etiquette, patient scheduling, patient medical recordkeeping, manual and computerized bookkeeping, and ordering of office supplies. (1/3/0/0), Arts & Sciences Elective Code: B

HIT-550 Professional Practice Experience I 2.5

Combines the theory of health information management with supervised practice in selected health care settings. Introduces the student to the Health Information Management/Medical Record department, its specific health information systems, filing systems, numbering systems, indexes, registries, etc., including health care provider specific coding practices. Coordinated by the college. (0.5/0/6/0), Coreq: HIT-220, HIT-360; Arts & Sciences Elective Code: B

HIT-551 Professional Practice Experience II 0.5

Combines the theory of health information management in a physician's office. Provides practical application in specific health information systems, filing systems, numbering systems and provider specific coding practices. Coordinated by the college. (0/0/1.5/0), Prereq: HIT-550; Arts & Sciences Elective Code: B

HIT-552 Professional Practice Experience III 3

Combines the theory of health information management in selected health care settings with experiences in health information systems, quality assurance, coding of diseases and procedures, and medical record management. (0/0/9/0), Prereq: HIT-551; Arts & Sciences Elective Code: B

HIT-553 Professional Practice Experience IV 2

Combines the theory of health information management in selected health care settings. Provides practical application in specific health information systems, filing systems, numbering systems, indexes, registries, etc., including provider specific coding practices. Coordinated by the college. (1/0/3/0), Prereq: HIT-552; Arts & Sciences Elective Code: B

HIT-600 Medical Transcription 1

Develops skills in transcribing various medical reports with an emphasis on the proper use of medical terminology. Introduces transcription systems and management techniques. Confidentiality in the completion of medical reports is stressed. (0/2/0/0), Prereq: HIT-360, HSC-115, MTR-102; Arts & Sciences Elective Code: B

HIT-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

HIT-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

HSC: HEALTH SCIENCES

HSC-103 Studies in Health Sciences 1

Provides readings, papers, seminars and basic research or other projects/assignments under the individual guidance of a faculty member. (1/0/0/0), Arts & Sciences Elective Code: B; Comments: Permission of instructor, coordinator

HSC-107 Professionals in Health 2

Presents skills and characteristics expected for professional preparation and employability. Provides an overview of the health industry as it relates to health and safety regulations. (2/0/0/0), Arts & Sciences Elective Code: B

HSC-115 Medical Terminology 4

A comprehensive study of medical terminology as the language of medicine. Analyzes words by dividing them into component parts. Relates the medical terms to the structure and functional pathology of diseases and current medical procedures. Emphasizes word usage, abbreviations, pronunciation and spelling. (4/0/0/0), Arts & Sciences Elective Code: B

HSC-117 Basic Medical Terminology 2.5

Introduces basic word structure and terminology pertaining to body systems. Includes spelling, pronunciation and word usage. Provides a basic overview of disease process, symptoms, anatomy, special procedures, pharmacology and abbreviations. (2.5/0/0/0), Arts & Sciences Elective Code: B

HSC-119 Medical Terminology: Pathology 1.5

Investigates advanced medical terminology associated with the body systems. Includes an in-depth study of disease symptoms, disease pathology and surgical procedures. (1.5/0/0/0), Prereq: HSC-117; Arts & Sciences Elective Code: B

HSC-131 CPR for Healthcare Providers 0.5

Learn basic life support for healthcare providers. (0/1/0/0), Arts & Sciences Elective Code: B

HSC-135 First Aid 0.5

Learn basic first aid concepts along with the types of emergencies and conditions. (0.5/0/0/0), Arts & Sciences Elective Code: B

HSC-142 Elements of Pharmacology 1

Introduces essential concepts of pharmacology including drug legislation, terminology and pharmacy therapy in the clinical management of

patient care. Provides an overview of the different drug classifications and their actions and use. (1/0/0/0), Prereq: HSC-115, BIO-161 or BIO-168; Arts & Sciences Elective Code: B

HSC-172 Nurse Aide 3

This 75-hour nurse aide course meets the training requirements of the Omnibus Budget Reconciliation Act of 1987 (OBRA) for aides working in nursing facilities (NF) and skilled nursing facilities (SNF). Students learn basic care giving skills and concepts to provide safe, effective resident care. (2/1/1.5/0), Arts & Sciences Elective Code: B

HSC-210 Health Skills I 1

Introduces basic patient care skills: infection control techniques, measuring and recording vital signs, and body mechanics. Laboratory practice and skill achievement is required. (0.5/1/0/0), Arts & Sciences Elective Code: B

HSC-211 Health Skills II 1

Introduces basic skills related to patient mobility, methods for ambulation, positioning and range of motion. Discusses causes and effects of immobility. Laboratory practice and skill achievement is required. (0.5/1/0/0), Arts & Sciences Elective Code: B

HSC-217 Introduction to Pathology 3

Introduces the study of pathology. Includes description, etiology, signs and symptoms, diagnostic procedures, current medical treatment, progress and prevention of disease in each body system, with emphasis on basic concepts and terminology. (3/0/0/0), Prereq: BIO-161 or BIO-173; Arts & Sciences Elective Code: B

HSC-281 Limited Practice Radiography 5

Emphasis is placed on providing the knowledge and skills necessary to provide maximum protection from ionizing radiation for the patient and personnel. Includes basic physics as applied to X-ray machines and technology; film processing; patient position; preparation for radiographs of the chest, extremities and spine; film evaluation; and radiation protection. The course meets the rules and regulations of the state of Iowa for radiation-emitting equipment. (4/2/0/0), Arts & Sciences Elective Code: B

HSC-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

HSC-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

HSV: HUMAN SERVICES

HSV-101 Human Services Career Orientation 3

Introduces the value base of human services and evaluates problems that can be encountered in working with people when these values conflict with client needs. Introduces the framework of the human services approach, specifically formation of individual values, systems analysis, problem solving and conflict resolution. Concepts of systems analysis are accompanied by applications of these concepts to problems. (3/0/0/0), Arts & Sciences Elective Code: A

HSV-110 Human Service Policy and Programs 3

Investigates the relationship between social service programs and related social issues in the context of cultural conditions. Introduces historical trends in human services and acquaints students with current human services available to various client groups. (3/0/0/0), Prereq: HSV-101; Arts & Sciences Elective Code: A

HSV-120 Observation Skills 3

Focuses on learning the distinction between inference and behavior, and recording behaviors in a systematic way. Course also includes learning the importance of environment as an influence on human behavior. Closely related competencies to be addressed are writing behavioral objectives and contracts. (3/0/0/0), Prereq: HSV-101; Arts & Sciences Elective Code: A

HSV-131 Basic Problem Solving Skills 3

Includes an overview of various intervention techniques. Students learn principles of communication, interviewing and conflict resolution and then practice the techniques in role played videotape situations. (3/0/0/0), Prereq: HSV-101; Arts & Sciences Elective Code: A

HSV-282 Health & Psychosocial Rehabilitation 3

Focuses on an overview of health, substance abuse and mental health issues of individuals. Students develop skills in identification, planning, assessment, treatment/interventions, and the development of social support systems and community resources. Students apply their knowledge of integrated practice in a discipline-specific project. (3/0/0/0), Arts & Sciences Elective Code: A

HSV-287 Counseling Theories & Techniques 3

Provides further reinforcement and expands topics introduced in Basic Problem Solving. Includes goals of psychosocial rehabilitation, mental health disorders and their diagnosis, and categories and classification of Axis I Psychiatric Disorders. Describes the process of making appropriate client referrals, locating community human service resources and agencies, and creating and implementing service plans for

health care issues. (3/0/0/0), Prereq: HSV-101, HSV-131, HSV-282; Coreq: HSV-813; Arts & Sciences Elective Code: A

HSV-290 Psychosocial Rehabilitation 3

Field Experience and Seminar
Students will work in an agency with people with mental illness and apply the skills and techniques learned in the psychosocial rehabilitation course. Students will meet in seminar class to discuss experiences and gain insights from the instructor and other students. (0/6/3/0), Prereq: HSV-280; Arts & Sciences Elective Code: A

HSV-292 Substance Abuse and Treatment 3

Examines alcohol and drug issues and the implications of having an addiction. Includes theories of the addictive process, prevention and treatment options, and specific counseling and therapeutic skills used with individuals in inpatient and outpatient settings. Focuses on the impact of the family unit, social systems and the greater community. Students apply their knowledge of integrated practice in a discipline-specific project. (3/0/0/0), Arts & Sciences Elective Code: A

HSV-800 Human Services Field Experience and Seminar 5

Places the student in a Human Services agency for 220 hours. The experience is discussed as a seminar, the purpose of which is to maximize the experience by gaining insights from the other students and the instructor. These insights should enable the students to objectify their experience. (1/6/6/0), Prereq: HSV-101, HSV-110, HSV-120, HSV-131; Arts & Sciences Elective Code: A; Comments: Completion of Human Service classes.

HSV-813 Alcohol & Drug Counselor Field Experience and Seminar I 6

Places the student in a Substance Abuse Treatment facility for a total of 250 hours. A weekly seminar maximizes student experience through insight from the other students and the instructor. These insights enable the students to objectify their experiences. (1/0/15/0), Prereq: HSV-101, HSV-131, HSV-292; Coreq: HSV-287; Arts & Sciences Elective Code: A; Comments: Meets part of the practicum requirement for the Iowa Board of Certification

HSV-814 Alcohol & Drug Counselor Field Experience & Seminar II 6

Places the student in a Substance Abuse Treatment facility for a total of 250 hours. Follows and builds on Alcohol & Drug Counselor

Field Experience and Seminar I. A weekly seminar maximizes student experience through insight from the other students and the instructor. These insights enable the students to objectify their experiences. (1/0/15/0), Prereq: HSV-101, HSV-131, HSV-292, DSV-200, HSV-287, HSV-813; Arts & Sciences Elective Code: A; Comments: Meets part of the practicum requirement for the Iowa Board of Certification

HSV-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

HSV-928 Independent Study 1-2

Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

HUM: HUMANITIES

HUM-105 Working in America 3

Introduces students to the humanities through an interdisciplinary study of work. By examining works of art, literature, music, philosophy, religion, history and anthropology, this course explores human labor in the past, present and future in an attempt to understand how work shapes human nature and culture. Focus will be on the meanings and values of students' work experiences. (3/0/0/0), Arts & Sciences Elective Code: A

HUM-116 Encounters in Humanities 3

By asking a series of questions about various examples of human activity (literature, philosophy, history, visual arts and music), teaches a method of inquiry for use in understanding and appreciating the humanities. (3/0/0/0), Arts & Sciences Elective Code: A

HUM-123 U.S. Film History 3

Tracks the development of film art in the United States from its earliest silent years to the modern era. Identifies and explores the contributions of American filmmakers and the influences of the American film industry and American culture on cinema as an art form. (3/0/0/0), Arts & Sciences Elective Code: A

Course Descriptions

HUM-124 World Film History 3

Tracks the development of film art in countries other than the United States from the primitive era to the modern era. Identifies and explores the contributions of major world filmmakers and the influences of the various film industries and cultures as reflected in the films of these specific countries. (3/0/0/0), Arts & Sciences Elective Code: A

HUM-142 Popular Culture 3

Introduces students to the study of popular culture. Analyzes the way in which human beings interact with popular culture, both as individuals and as part of the larger society. The course also examines a wide variety of popular texts to illustrate the ways in which they reflect and perhaps shape cultural values. Through this process, students develop skills for the critical analysis of advertising, television programs, comic books, and interactive multimedia, among other forms of popular culture. (3/0/0/0), Arts & Sciences Elective Code: A

HUM-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

HUM-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

IND: INDUSTRIAL TECHNOLOGY

IND-112 CPR/First Aid 1

Students learn basic first aid and CPR. This course meets OSHA requirements for blood-borne pathogens and first aid for industry. (0.5/1/0/0), Arts & Sciences Elective Code: B

IND-114 General Industry Safety 1

Provides instruction on general industry safety and health topics. Learning activities result in students earning an OSHA 10 card. (1/0/0/0), Arts & Sciences Elective Code: B

IND-119 Industry Orientation 1

Presents information relating to careers and jobs that may result from the completion of the HVAC installer program. Topics include job specific information provided by employers and visits to actual work settings. (0/2/0/0), Arts & Sciences Elective Code: B

IND-155 Microcomputer Applications 2

Covers several applications for microcomputers in business and industry. Included are operating systems, data management, communications, word processing and peripheral devices. (1/2/0/0), Arts & Sciences Elective Code: B

IND-320 Customer Service in Technology 2

Provides students with the basics of customer service, adaptable to any type of technical organization that deals with the public. Topics include: ethics, respect, teamwork, communication, handling emotions, interpersonal relationships and telephone techniques. (2/0/0/0), Arts & Sciences Elective Code: B

INT: INTERIOR DESIGN

INT-107 Kitchen and Lighting Design 4

Provides kitchen design standards and skills according to NKBA industry standards. Covers structural lighting, and project cost estimation and specifications. Kitchen design topics include work center requirements, cabinetry, countertops, storage, plumbing, appliances, and the graphic communication and presentation skills required in a kitchen dealership. A kitchen portfolio, including materials board, Excel Workbook and CAD drawings, is produced and presented. (4/0/0/0), Prereq: INT-310; Coreq: INT-108, INT-110; Arts & Sciences Elective Code: B

INT-108 CAD for Interior Designers I 3

Provides interior design students with CAD skills to produce two-dimensional floor plans and elevation drawings. Acquaints students with the current version of AutoCAD as a tool to produce drawings and set up client files. (1/4/0/0), Prereq: CSC-110; Coreq: INT-107, INT-110; Arts & Sciences Elective Code: B

INT-110 Interior Design I 4

Focuses on furniture space planning, upholstery, windows, window treatments, and floors. Emphasizes the study of materials and how to accurately measure, use of Excel Workbook and installation. A product resource file is compiled, along with lab assignments, which builds skills working with materials as they are applied to interiors and working with a client. (4/0/0/0), Prereq: INT-310; Coreq: INT-107, INT-108; Arts & Sciences Elective Code: B

INT-111 Interior Design II 4

Allows the student, through project work, to apply three new units to residential interior design: wall materials, interior architectural detail (millwork) and bath design (NKBA guidelines). The interior products are specified and color schemed. A project portfolio is completed, including materials board, CAD drawings, color renderings, and Excel Workbook. A major residential project is managed from

programming, room space planning, and working drawings to furniture plans. The final is an oral presentation of the project. (4/0/0/0), Prereq: INT-110; Coreq: INT-118, INT-313; Arts & Sciences Elective Code: B

INT-113 Portfolio Assessment 1

Provides an opportunity for students to assemble portfolios and set career goals in the transition from school to work. Professional interior designers and guest speakers discuss their career specialties with students. Speakers discuss what they look for in a job candidate and interviewing techniques. Resumes are prepared for specific design specialties. Students present their portfolios as the final exam. (1/0/0/0), Coreq: INT-108, INT-111, INT-313; Arts & Sciences Elective Code: B

INT-118 CAD for Interior Designers II 3

Students create and render three-dimensional objects; project viewpoints; work in model, and paper, space using CAD symbol library resources. Students attach attributes to blocks, extract data from design documents and databases. Production of portfolio-quality work is required. (2/2/0/0), Prereq: INT-108; Coreq: INT-111, INT-313; Arts & Sciences Elective Code: B

INT-300 Textiles for Interior Design 3

Studies fibers, yarns, fabrics, finishes and regulations used in commercial and residential interior textile products. Fabric properties are evaluated according to variables of end-use serviceability and product categories. Directed laboratory activities provided. (3/0/0/0), Arts & Sciences Elective Code: B

INT-301 Design Fundamentals 3

Surveys American architecture and furniture styles and studies design elements and principles applied to interiors. Includes an introduction to the design process, space planning and accessibility issues. Interior design as a career is explored. (3/0/0/0), Arts & Sciences Elective Code: B

INT-302 Color Theory 3

Serves as a skill course emphasizing the use of hue, value and chroma based on the color systems of Munsell and Brewster/Prange. Hue resource files are swatched serving as a basis for color schemes applicable to interior design. Emphasizes development of dominant hue, secondary hue, accent hue and areas of neutral. (2/2/0/0), Prereq: INT-301; Arts & Sciences Elective Code: B

INT-303 Historical Interiors I 3

Surveys the progression of architecture, the

decorative arts and furniture styles from classical antiquity through the baroque period of Europe. Projects and study stress the identification and coordination of the periods. (3/0/0/0), Arts & Sciences Elective Code: B

INT-304 Historical Interiors II 3
 Surveys the progression of European and American architecture, decorative arts and furniture styles of the 18th century through the 20th century. Identification of modern design in architecture and furniture is stressed. (3/0/0/0), Arts & Sciences Elective Code: B

INT-310 Architectural Graphics 4
 Introduces architectural tools, symbols and scale drawings. Basic skills mastered include architectural lettering, dimensioning, plan drawing types, schedules and overlay methods of blueprinting. Field-measuring skills are integrated into required lab activities. Material samples are swatched and color schemed according to project requirements in the lab. Presentation skills learned include swatchboard construction. Floor plan and elevation color rendering of material samples will be prepared to communicate a color scheme to a client. Attendance and time management skills are developed in this course that ensure projects are completed by the due date. (2/4/0/0), Prereq: INT-302, INT-304; Arts & Sciences Elective Code: B

INT-313 Contract Design 4
 Studies space planning of casegood and modular systems workstations. Includes units in accessibility for ADA code compliance in public facilities and fire code. Students work in small groups, and project management skills are developed. Projects include CAD drawings, Excel, Workbooks and material boards. (4/0/0/0), Prereq: INT-107; Coreq: INT-111, INT-118; Arts & Sciences Elective Code: B

INT-924 Honors Project 1
 Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

INT-928 Independent Study 1
 Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

INT-932 Internship 0.5-4
 Provides an opportunity to receive interior design work experience through on-the-job training in an approved work setting. This internship will be

approved by the Interior Design coordinator and will be evaluated with a letter grade. (0/0/0/2-16), Arts & Sciences Elective Code: A

ITP: INTERPRETING

ITP-101 Independent Skills Lab I 2
 Provides additional practice in fundamental skills in conjunction with American Sign Language I. Students engage in various activities including the use of professional videotapes. Required for majors and recommended for non-majors. (0/4/0/0), Arts & Sciences Elective Code: A

ITP-102 Independent Skills Lab II 2
 Provides continued practice in developing skills in conjunction with American Sign Language II. Students engage in various activities including the use of professional videotapes. Required for majors and recommended for non-majors. (0/4/0/0), Prereq: ASL-141; Arts & Sciences Elective Code: A

ITP-120 Introduction to Interpreting 3
 Provides a history of interpreting as well as an overview of interpreting as a profession. Topics include the interpreting environment, professional ethics and certification, interpreting in educational and community settings, and the physical, psychological and health aspects of interpreting. The influence of the cultural context on the success of the interpreting process is explored. Students are introduced to pantomime and its use in language expression in a visual mode. (3/0/0/0), Arts & Sciences Elective Code: A

ITP-130 Social Aspects of Deaf Culture 3
 Introduces aspects of diversity within the deaf community in America, Canada and internationally. Students become familiar with social structure, the history of deafness and the history of the American deaf community, including the evolution of education of the deaf. Students become familiar with legislation that impacts the deaf in America. Discusses definition of deafness and impact on culture. (Satisfies college Diversity requirement for Associate of Arts degree.) (3/0/0/0), Arts & Sciences Elective Code: A

ITP-150 Process Analysis 4
 Emphasizes pre-interpreting skills and the receptive process of interpreting sign to voice. Students learn to process visual and auditory information. Students learn to observe and to reflect meaning by vocalizing in the interpreter role. Students study classifiers in depth. Strong emphasis is on the use of correct standard English. Students build vocabulary in the English language and there is less emphasis on signing. (4/0/0/0), Prereq: ASL-141; Arts & Sciences Elective Code: A

ITP-161 Signing Systems in the Educational Setting 3
 Provides an opportunity to learn Signing Exact English II and Signed English with a focus on

transliterating in educational settings. Students learn the rules of usage and they build speed in words/signs per minute. Students explore the history and relationships of different sign modes. (3/0/0/0), Arts & Sciences Elective Code: A

ITP-170 Sign Choir 1
 Provides an aesthetic environment for students to explore American Sign Language as a performing arts medium. Students learn to sign songs in a variety of musical styles. Some choreography may be incorporated, but the effect will be visually pleasing for hearing and deaf audiences. The final will be in the form of a performance for a live audience. (0/2/0/0), Arts & Sciences Elective Code: A

ITP-221 Interpreting I 4
 Emphasizes three aspects of interpreting: American Sign Language, transliterating and voicing. Students learn to analyze texts in increasing complexity and rates of speed, interpret them in American Sign Language and transliterate into Conceptually Accurate Signed English. Focus of the class is on sign-to-voice and voice-to-sign. Most assignments will be produced in a manual mode. Journaling is used to help students in the learning process. (4/0/0/0), Prereq: ASL-241; Arts & Sciences Elective Code: A

ITP-222 Interpreting II 3
 Focuses on continued skills development in transliterating and voicing learned in Interpreting I. Students progress to a higher level in cognitive processing as it relates to transliterating and voicing. Oral interpreting, theatre interpreting and an experience in deaf theatre are introduced to broaden the students' experience. Course focuses on Conceptually Accurate Signed English. (3/0/0/0), Prereq: ASL-271, ITP-221; Arts & Sciences Elective Code: A

ITP-251 Professional Issues 2
 Provides skills necessary in interpersonal relationships in the workplace as an interpreter. Topics include stress management, conflict management, self-esteem as an interpreter, interpreting as a business and ethical behavior. (2/0/0/0), Prereq: ITP-120; Arts & Sciences Elective Code: A

ITP-252 Special Settings 2
 Explores voicing and interpreting guidelines for various interpreting settings including educational, legal, medical, mental health, religious, platform and rehabilitation. Course also develops understanding of communication techniques used in deaf-blind interpreting. Ethical considerations and dilemmas are explored for each setting. (2/0/0/0), Arts & Sciences Elective Code: A

Course Descriptions

ITP-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

ITP-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A

ITP-954 Practicum and Seminar 6

Application of concepts and skills learned in the classroom in community or educational interpreting situations under the guidance of a mentor interpreter. This on-the-job experience occurs as the final phase of the program. In the seminar portion of the course, students discuss roles and responsibilities of the interpreter, current professional topics, and application of the Code of Ethics. Students will keep logs, journals, and develop a portfolio. (2/0/12/0), Prereq: ITP-221; Arts & Sciences Elective Code: A; Comments: ITP-221 must be completed with a grade of C or better.

LIT: LITERATURE

LIT-105 Children's Literature 3

Provides a broad overview of children's literature, with emphasis upon work done by American writers and illustrators. Students use standard techniques of literary analysis to critique the works explored in the course. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-158 Literature of the African Peoples 3

Provides an introduction to the literature and culture of persons of African descent. Readings include fiction and nonfiction authors from Africa, the Caribbean and the United States. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-203 Forms of Literature: Story Cycle 3

Explores, through story cycles and critical theory, the questions: What is a story cycle? How are they crafted, read and interpreted? How are they different from or similar to other forms of literary expression? How does form affect interpretation? (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-204 Forms of Literature: Nonfiction 3

Focuses on literary nonfiction - essays, memoirs, profiles or criticism - that aspires not only to

inform, but also to employ language aesthetically and prompt reflection on experience. Students will explore, through literature and critical theory, the following questions: What is literary nonfiction? How are works of literary nonfiction crafted, read and interpreted? How are they different from and similar to other forms of literary expression? How does form affect interpretation? (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-205 Forms of Literature: Drama 3

Focuses on the study of dramatic literature. Students will practice a method of reading and interpreting plays, exploring the following questions: What is drama? How are works of drama crafted, read and interpreted? How are they different from and similar to other forms of literary expression? How does form affect interpretation? (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-206 Forms of Literature: Fiction 3

Explores, through short stories, novels, films and critical theory, the following questions: What is fiction? What are its common elements? How does understanding these elements and the ways they interconnect affect our understanding of how fiction is crafted, read and interpreted? How is fiction different from or similar to other forms of literary expression? (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-207 Forms of Literature: Poetry 3

Focuses on the study of poetry. Students will practice reading and interpreting poems, exploring the following questions: What is poetry? How are poems crafted, read and interpreted? How are they different from and similar to other forms of literary expression? How does form affect interpretation? (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-208 Forms of Literature: New Media 3

Explores online and computer-based literature. Employing relevant literary theory, students study traditional literature (poetry, fiction, nonfiction, drama) and compare those forms to new media literary forms like hyperfiction and hyperpoetry. Questions include the following: What is new media literature? How does it compare with traditional genres? What makes it qualify as literature? How does literary form affect interpretation? (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-222 Literature and Culture: American Dreams 3

Explores a variety of expressions of self and society in America through established fiction, autobiography, journals, letters, photographs and other cultural artifacts. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-224 Literature and Culture: Women and Work 3

Through reading literature along with social documents by women and men, the course explores gender identity and work issues for women in traditional and nontraditional gender roles - as domestic angels, factory workers or professionals. Materials may include autobiographies, letters, films, short fiction, poetry, drama, novels and other artifacts. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-225 Literary Themes: Beyond Bartleby: Images of Business and Labor in Literature and Film 3

Explores images and issues of business and labor as they manifest in major fiction and nonfiction texts. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A; Comments: Admission to the Advance program

LIT-226 Literary Themes: Literature and the Search for Identity 3

Explores the theme of identity in literature - short stories, novels, poems, plays and nonfiction. May use ideas and approaches from literary criticism, psychology, philosophy and religion to illuminate the importance of stories in structuring human experience and establishing a sense of our own identities. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-227 Literature and Culture: World Poetry 3

Explores non-Western traditional and contemporary poetry of Asia, Africa, the Middle East, Latin America and the Caribbean. Studies the forces that shape the creation as well as the experience of poetry in these cultures, such as politics, gender, religion, technology, etc. Students learn to compare literary expression across cultures and to place the Western tradition in a larger context. (3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

LIT-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of an honors faculty member. Requires that students meet honors eligibility criteria. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

LIT-928 Independent Study 1-3

Provides readings, papers and/or research projects in literature under the guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A

LIT-945 Selected Topics 1-3

Offers specialized study in interest areas. Areas may include special courses in mythology, American culture, adolescent literature or other

concentrations. (1-3/0/0/0), Prereq: ENG-105 or ENG-120; Arts & Sciences Elective Code: A

MAP: MEDICAL ASSISTANT

MAP-123 Administrative Medical Office Procedures 3

Presents the principles of administration for the medical office including facility and supply management, telephone and appointment techniques, managing records, and medical bookkeeping. (1/2/0/0), Arts & Sciences Elective Code: B

MAP-142 Medical Insurance and Legalities 3

Provides a working knowledge of basic medical insurance programs, forms utilized and the record keeping of insurance claims. Also includes medical ethics and legalities related to medicine. (3/0/0/0), Prereq: BIO-161, HSC-115; Arts & Sciences Elective Code: B

MAP-210 Medical Lab 3.5

Provides basic principles and skills in hematology, urinalysis, venipuncture, blood chemical exams, and quality control as applied to the medical office. (1.5/4/0/0), Prereq: BIO-161, HSC-107, HSC-115, HSC-210, MAP-123; Arts & Sciences Elective Code: B

MAP-260 Basic Electrocardiology 1

Provides instruction in electrocardiography including psychological and physical preparation of a patient for an ECG: paper set-up and operation of equipment, mounting of tracings and troubleshooting to obtain acceptable tracings. This course does not include complex interpretation and diagnosis of cardiac rhythms. (0.5/1/0/0), Prereq: BIO-161, HSC-107, HSC-115, HSC-210, MAP-123; Arts & Sciences Elective Code: B

MAP-312 Medical Assistant Clinical Procedures 3

Includes basic clinical skills used in a medical office: preparing for the patient's visit; assisting the physician and patient during examination and treatment, including minor surgery; positioning, microbiology and sterilization; X-rays; physical therapy; nutrition; and administration of injected medications as applied to the medical office. (1.5/3/0/0), Prereq: BIO-161, HSC-107, HSC-115, HSC-210, MAP-123; Arts & Sciences Elective Code: B

MAP-501 Math for Medications 1

Provides a basic mathematical background for an understanding of measurement systems and the calculation of dosages of oral and parenteral medications for medical assisting. (1/0/0/0), Arts & Sciences Elective Code: B

MAP-513 Medical Assisting Pharmacology 3

Provides a basic background in the classification of drugs, their sources, uses and legal implications. Discusses characteristics of typical drugs, side effects, precautions, interactions and patient education. (3/0/0/0), Prereq: BIO-161, HSC-115; Arts & Sciences Elective Code: B

MAP-616 Medical Assisting Externship 7

Offers supervised practical experience in medical offices, clinics and other medical care settings. (2/0/15/0), Prereq: MAP-123, MAP-210, MAP-312, MAP-513, MAP-142, MAP-260, MAP-501; Arts & Sciences Elective Code: B; Comments: All Medical Assisting technical courses.

MAP-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MAP-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

MAS: MASONRY

MAS-215 Masonry Tools and Equipment 1

Provides knowledge and use skills of basic manual masonry tools and equipment covering selection, use, maintenance and repair. Includes measuring devices, builders' levels and transits, trowels and other mortar tools, basic masonry cutting and shaping tools, levels, squares, mortar mixing, and material handling equipment. (0/2/0/0), Arts & Sciences Elective Code: B

MAS-217 Masonry Lab I 7

Provides introductory, intensive hands-on skills in construction of masonry structures including handling and identification of materials. Develops skills in handling and laying masonry units, mixing mortar, finishing joints. Includes introduction and practice in basic masonry walls and the activities required to construct them. (3/8/0/0), Arts & Sciences Elective Code: B

MAS-218 Masonry Tools and Equipment II 1

Extends knowledge and use skills of masonry tools and equipment covering selection, use, maintenance and repair. Includes power tools and equipment such as masonry drilling tools and equipment, masonry fastening devices, power fasteners, masonry and concrete cutting devices and equipment, scaffolding and ladders. (0/2/0/0), Prereq: MAS-215; Arts & Sciences Elective Code: B

MAS-222 Masonry Lab II 9

Provides advanced, intensive hands-on skills in construction of masonry structures. Improves skills in handling and laying masonry units, mixing mortar, and finishing joints. Includes introduction and practice in complex masonry walls, flashings, reinforcement, finishing and cleaning. (3/12/0/0), Prereq: MAS-217; Arts & Sciences Elective Code: B

MAS-920 Field Experience 3

Provides capstone masonry construction experience. Includes final evaluation covering masonry skills, work habits, skills in working with others and ability to contribute to the success of the project. (0/0/0/12), Prereq: MAS-218, MAS-222; Arts & Sciences Elective Code: B

MAS-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MAS-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

MAT: MATHEMATICS

MAT-018 College Readiness Experience Math 4

Provides basic math instruction to determine student readiness for college-level math courses. (4/0/0/0), Arts & Sciences Elective Code: D

MAT-052 Pre-Algebra 3

Introduces basic algebra concepts and reviews basic math. Includes fractions, decimals, proportions and percents. Introduces integers, exponents, simple equations and graphing. (3/0/0/0), Arts & Sciences Elective Code: D

MAT-062 Elementary Algebra 3

Includes the properties of the real numbers, equations and inequalities in one variable, formulas, applications, operations and factoring of polynomials, exponents, and graphing linear equations. This course presumes a proficiency in fractions, decimals and signed numbers. (3/0/0/0), Arts & Sciences Elective Code: D

MAT-095 Personal Achievement Math 1

Individualized course of instruction in basic math. Topics include: whole numbers, fractions, decimals, ratio and proportion, and percent. Additional topics may include pre-algebra, metric system and technical math. (0/2/0/0), Arts & Sciences Elective Code: D

MAT-102 Intermediate Algebra 4

A continuation of topics studied in Elementary

Course Descriptions

Algebra. Includes equations, inequalities, systems of equations, matrices, functions, graphs, polynomials, rational expressions, exponents, radicals and logarithms. (4/0/0/0), Prereq: MAT-062; Arts & Sciences Elective Code: B

MAT-107 Survey of Mathematics 4
Provides an overview of topics that include: sets, real number systems, ratios, proportions, percentages, geometry, algebra and functions. The course is for students with a minimum of one year of high school algebra and who intend to take Statistical Ideas or Mathematics and Society. (4/0/0/0), Arts & Sciences Elective Code: B; Comments: One year high school algebra or placement test.

MAT-109 Industrial Maintenance Math Fundamentals 3
Demonstrates mathematical principles to enable students to understand and apply course material covered throughout the Industrial Maintenance Technology program. Improves math fundamentals that are used throughout the rest of the program. Includes metric prefixes and conversions, exponents, scientific notation, percentages, dimensional analysis, ratio and proportions, areas, volumes, and algebraic expressions. (3/0/0/0), Prereq: MAT-062; Arts & Sciences Elective Code: B

MAT-115 Mathematics and Society 3
Introduces selected areas of mathematics in familiar settings and develops students' conceptual and problem-solving skills. The course includes a study of mathematical concepts selected from statistics, probability, game theory, growth patterns and coding information. Other topics may be included. (3/0/0/0), Prereq: MAT-102 or MAT-107; Arts & Sciences Elective Code: A

MAT-117 Mathematics for Elementary Teachers 3
Designed to deepen students' understanding of the mathematics they will teach to elementary school children. Includes methods of problem solving, measurement, geometry, place value, arithmetic operations in a variety of algorithms and the relationships between these algorithms. Students also explore concepts using manipulatives. This course was developed for elementary education majors who choose a specialization different from mathematics, but is not limited to those students. (3/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

MAT-120 College Algebra 3
Uses a problem-solving approach to illustrate how algebra can model and solve real-world problems. Emphasizes linear, exponential and logarithmic functions. This liberal arts course is not preparation for calculus. (3/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

MAT-136 Trigonometry and Analytic Geometry 5
Examines trigonometric functions, graphs,

identities and applications. Includes conic sections, polar coordinates, parametric equations, vectors, planes and surfaces. (5/0/0/0), Prereq: MAT-138; Arts & Sciences Elective Code: A

MAT-137 Applications of Geometry 1
Begins with a review of right angle trigonometry as it applies to the machinist and continues with additional trig (both right angle and oblique angle) and geometry concepts. Emphasizes practical application of the mathematical concepts to the planning and programming skills required for CNC programs. (1/0/0/0), Prereq: MAT-736; Arts & Sciences Elective Code: B; Comments: Equivalent industrial math experience may be taken in lieu of prerequisite.

MAT-138 College Algebra with Limits 4
Examines polynomial, rational, radical, exponential and logarithmic functions and equation solutions. Includes matrices, sequences, series and introduces limits. This course is intended for all students who will eventually take any calculus course. (4/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

MAT-140 Finite Math 3
Includes methods of solving linear equations and inequalities. Introduces linear programming, matrices, functions, graphs, counting techniques, probability, mathematics of finance and applications. (3/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

MAT-149 Linear Algebra 3
Includes matrix and vector arithmetic, using matrices to solve systems of linear equations, eigenvalues and eigenvectors, diagonalization of matrices, and an introduction to subspaces of Euclidean space. (3/0/0/0), Prereq: MAT-210; Arts & Sciences Elective Code: A

MAT-150 Discrete Math 3
Introduces concepts in discrete mathematics as applied to computer science. Includes logic, methods of proof, sets, functions, relations, counting techniques, discrete probability, permutations and combinations, graphs and trees. Emphasizes connections between discrete math and programming concepts. (3/0/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

MAT-155 Statistical Ideas 3
Designed for students who are not majoring in mathematics or the sciences. The course provides an overview of the basic ideas needed by consumers of statistics and can also provide a helpful framework for a more detailed study of the subject. (3/0/0/0), Prereq: MAT-102 or MAT-107; Arts & Sciences Elective Code: A

MAT-157 Statistics 4
Focuses on descriptive statistics (mean, medium, mode, standard deviation and variance) and introduces correlation and linear regression. Emphasizes inferential statistics and probability distributions as applied to confidence intervals, hypothesis testing of mean and standard

deviation, and applications to business and other fields. (4/0/0/0), Prereq: MAT-102 or MAT-107 or MAT-155; Arts & Sciences Elective Code: A

MAT-162 Business Statistics 4
Introduces statistics, primarily for business majors. Investigates methods of collection, organization, presentation, analysis and interpretation of quantitative data as tools in effective business decision-making. Computer applications are used to assist in visualizing and analyzing data. Covers descriptive statistics, probability, confidence intervals and hypothesis testing for one and two samples, regression, correlation and chi-square. Additional topics may be covered, including ANOVA. (4/0/0/0), Prereq: MAT-138 or MAT-140 or MAT-155 or MAT-157; Arts & Sciences Elective Code: A

MAT-165 Business Calculus 3
Studies the techniques of differential and integral calculus likely to be encountered in an undergraduate course in business economics. Applications are emphasized in these areas. (3/0/0/0), Prereq: MAT-138; Arts & Sciences Elective Code: A

MAT-175 Calculus for the Biological Sciences 4
Provides non-theoretical analysis of differential and integral calculus. Introduces differential equations, while emphasizing life science applications. (4/0/0/0), Prereq: MAT-138; Arts & Sciences Elective Code: A

MAT-210 Calculus I 4
Includes limits, derivative, differentiation, the differential elementary applications of calculus and introduction to integration. (4/0/0/0), Prereq: MAT-136; Arts & Sciences Elective Code: A

MAT-216 Calculus II 4
Continues Calculus I and includes study of the integral, integration, application of integration, techniques of integration and infinite series. (4/0/0/0), Prereq: MAT-210; Arts & Sciences Elective Code: A

MAT-219 Calculus III 4
Continues Calculus II and includes study of vector functions, function of several variables, multiple integrals and vector fields. (4/0/0/0), Prereq: MAT-216; Arts & Sciences Elective Code: A

MAT-227 Differential Equations With Laplace 4
Studies exact equations, separable equations, linear equations, physical applications, series solutions, systems of linear differential equations and methods of approximating the solutions to first-order equations. Laplace transforms are introduced and used to solve differential equations. (4/0/0/0), Prereq: MAT-216; Arts & Sciences Elective Code: A

MAT-700 Basic Math 3
Covers basic business skills such as addition, subtraction, multiplication and division of

whole numbers, decimals and fractions. Covers specifically dimensional analysis and significant digit concepts. Also gives practice in solving business math problems and covers introductory algebra concepts. (3/0/0/0), Arts & Sciences Elective Code: B

MAT-715 Industrial Math I 3
Covers basic math skills such as addition, subtraction, multiplication and division of whole numbers, decimals and fractions. Covers specifically dimensional analysis and significant digit concepts. Also gives practice and solving stated problems and covers introductory algebra concepts. (3/0/0/0), Arts & Sciences Elective Code: B

MAT-716 Industrial Math II 3
Covers basic algebra as it relates to fundamental equations, ratios and proportion, and percentages. Covers applied geometry as it relates to finding length, area, volume, etc. Also covers basic right angle trigonometry and gives more practice in solving stated problems. (3/0/0/0), Prereq: MAT-700; Arts & Sciences Elective Code: B

MAT-718 Industrial Maintenance Math 3
Builds on principles learned in the IMT math fundamentals course. Demonstrates practical mathematical principles to enable students to understand and apply course material covered throughout the Industrial Maintenance Technology program. Covers angles and Cartesian coordinates, j-operators, complex numbers, dimensional analysis, inductance, capacitance, RLC circuits, trigonometric functions, transistors, power supplies and diodes. Lab exercises enhance understanding of inductance, reactance and capacitance in the circuit. (1/4/0/0), Arts & Sciences Elective Code: B

MAT-731 Introduction to Math 2
Includes a review of basic arithmetic operations. Provides positive and negative integers, ratios, proportions, exponents, radicals, scientific notation and practical applications of metric conversions for two credit hours. An additional credit hour includes introductory algebra concepts, functions, inequalities, binary number system and solving first-degree equations. (2/0/0/0), Arts & Sciences Elective Code: B; Comments: Placement test.

MAT-732 Introduction to Math 3
Includes a review of basic arithmetic operations. Provides positive and negative integers, ratios, proportions, exponents, radicals, scientific notation and practical applications of metric conversions. Also includes introductory algebra concepts, functions, inequalities, binary number system and solving first-degree equations. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Placement test.

MAT-735 Machinist Mathematics I 2

Begins with a review of fractions and decimals as they are used to solve shop problems. Students are introduced to the problems involving powers and roots, tapers and angles. Use of the calculator is introduced, along with handbook tables and formulas. Introduces the student to metric conversion and more advanced applied math involving calculations of area, volume and weight of material. (2/0/0/0), Arts & Sciences Elective Code: B

MAT-736 Machinist Mathematics II 1
Continues Machinist Mathematics I. Introduces students to more advanced practical mathematics. Includes metric conversion, area and volume calculation, temperature conversion and expansion of metals. Right angle trigonometry is introduced along with calculations that relate to numerical control programming. (1/0/0/0), Prereq: MAT-735; Arts & Sciences Elective Code: B

MAT-738 Plumbing Math Concepts 1
Provides instruction on plumbing trade calculations including British Thermal Units (BTUs), heat transfer, heat loss and heat gain, latent and sensible heat, volume, weight and surface area calculations, percentage calculations, water and head pressure calculations, Boyle's Law, and the applications of Boyle's Law. (1/0/0/0), Prereq: MAT-716; Arts & Sciences Elective Code: B

MAT-739 Pipe Fitters Math 3
Provides practical math skills intended for the pipe welder apprentice, journeyman or supervisor. Students complete a series of math exercises commonly used in pipefitting. Trigonometry review to complex rolling offsets are covered. (3/0/0/0), Prereq: MAT-102 or MAT-765; Arts & Sciences Elective Code: B

MAT-740 Introduction to Technical Mathematics 2
Prepares the student for the study of technical mathematics. Concentrates on algebraic skills and other related math skills. (2/0/0/0), Arts & Sciences Elective Code: B

MAT-745 Technical Mathematics I 4
Studies applied math with no attention devoted to proofs and theorems, but with full emphasis on a high skill level in calculations. Topics include concepts of basic algebra, functions and graphs, trig functions, determinants, vectors, quadratic equations, exponents and radicals, J-operator and systems of nonlinear equations. (4/0/0/0), Arts & Sciences Elective Code: B

MAT-746 Technical Mathematics II 4
Introduces calculus with skills acquired in Technical Mathematics I used for problem solving. Special topics covered: introduction to statistics, introduction to the derivative, application of derivative, integration and application of integration. (4/0/0/0), Prereq:

MAT-745; Arts & Sciences Elective Code: B

MAT-755 Fabrication Math I 2
Covers basic math skills such as addition, subtraction, multiplication and division of whole numbers, decimals and fractions. Introduces linear measurement with emphasis on common measurement tools and techniques, scientific calculators, handbook tables, formulas, basic algebraic concepts, metric conversion, and applied problems of calculating area, volume, mass and weight. (2/0/0/0), Arts & Sciences Elective Code: B

MAT-756 Fabrication Math II 2
Continues Fabrication Math I. Introduces students to more advanced practical mathematics, including plane geometry and trigonometry, by resolving real industry problems. (2/0/0/0), Prereq: MAT-755; Arts & Sciences Elective Code: B

MAT-764 Welding Mathematics I 2
Covers basic mathematic skills needed for layout design, fabrication and blueprint reading. Addition, subtraction, multiplication, and division of fractions and decimals is covered with special emphasis on their application. Geometric principles and linear measurement units are included to assist in understanding and utilizing basic shop skills. (2/0/0/0), Arts & Sciences Elective Code: B

MAT-765 Welding Mathematics II 3
Covers basic algebra as it relates to fundamental equations, ratios and proportions, and percentages. Also covers basic right angle trigonometry and provides for additional practice in solving stated problems. (3/0/0/0), Prereq: MAT-715, MAT-740, MAT-764; Arts & Sciences Elective Code: B

MAT-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

MAT-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (0/4/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

MFG: MANUFACTURING

MFG-120 Machine Trade Printreading I 1
Introduces students to the importance of prints in industry. Covers the alphabet of lines and principles of sketching. Continues with an introduction to orthographic projection, auxiliary views, detail and assembly drawings, dimensions and tolerances, and sectional views.



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Title block information is covered along with materials lists, drawing notes and drawing change systems. (1/0/0/0), Arts & Sciences Elective Code: B

MFG-130 Machine Trade Printreading II 1
Continues Machinist Trade Printreading I. Covers geometric dimensioning and tolerancing and the interpretation of advanced prints, including numerical control programming and documents. (1/0/0/0), Arts & Sciences Elective Code: B

MFG-135 Fabrication Print Reading I 2
Introduces students to the importance of blueprints in industry. Covers topics such as the alphabet of lines, orthographic projection, auxiliary views, detail and assembly drawings, dimensions and tolerances and sectional views. Basic fabrication, machining, and welding prints are covered. (2/0/0/0), Arts & Sciences Elective Code: B

MFG-136 Fabrication Print Reading II 2
Continues Fabrication Print Reading I. Covers advanced print reading topics dealing with sheet-metal fabrication, welding and machining. Geometric dimensioning and tolerancing are included. (2/0/0/0), Prereq: MFG-135; Arts & Sciences Elective Code: B

MFG-140 Geometric Dimensioning and Tolerancing 1
Presents information concerning the special symbols used in geometric dimensioning and tolerancing. These symbols are a language used to communicate the ideas and intent of the designer to the people who manufacture the parts or the person who inspects the finished part. (1/0/0/0), Prereq: MFG-120, MFG-130; Arts & Sciences Elective Code: B; Comments: Appropriate work experience may be taken in lieu of prerequisite course work

MFG-175 Fabrication Welding - Sheet Metal 5
Emphasizes hands-on plasma arc cutting, gas metal arc welding and gas tungsten arc welding processes and their application to the fabrication of sheet metal weldments. Covers basic machine theory, operations and safety. (1/8/0/0), Arts & Sciences Elective Code: B

MFG-197 Material Properties 3
Introduces the basic concepts of metallurgy, and other materials commonly found in manufacturing. Focuses on metal classification, welding pre/post heating techniques, heat treating, quenching and surface hardening. Emphasizes hands-on lab projects as well as classroom theory. (3/0/0/0), Arts & Sciences Elective Code: B

MFG-203 Manufacturing Processes 2
Introduces students to modern manufacturing processes. Learning activities introduce special

symbols used on mechanical drawings. (0/4/0/0), Prereq: DRF-142, DRF-143; Arts & Sciences Elective Code: B

MFG-213 Basic Machine Theory 5
Covers theory of operation of machining tools, metallurgy as it applies to manufacturing, identification and elementary heat treatment of steel. Safety is taught as it applies to each machine process. Proper terminology of the machinist trade is emphasized. (5/0/0/0), Arts & Sciences Elective Code: B

MFG-215 Advanced Machine Theory 3
Continues Basic Machine Theory. Covers more advanced principles in setup and operation of lathes, mills and grinders. Introduces carbide lathe tools, milling cutters, and emphasizes productivity and accuracy. Covers theory of basic shaper setup and operation, and an introduction to basic turret lathe setups. Shop safety, cooperation and communication continue to be stressed. (3/0/0/0), Prereq: MFG-227; Arts & Sciences Elective Code: B

MFG-222 Machine Operations I 4
Covers lab use of basic measuring tools, layout and inspection tools, and bench work. Safe operation of machine tools and heat treating equipment is taught. Emphasis is on following blueprints and holding tolerances through the use of a variety of processes to produce a product. (0/8/0/0), Coreq: MAT-735, MFG-120, MFG-213; Arts & Sciences Elective Code: B

MFG-227 Advanced Machine Operations I 4
Continues MFG-222. More complex prints are used to introduce additional machine tool processes. (0/8/0/0), Prereq: MFG-222; Coreq: MAT-735, MFG-120; Arts & Sciences Elective Code: B

MFG-228 Machine Operations II 4
Covers advanced setup and operation of lathes, mills and grinders using different materials and cutters. Productivity and safe operation are emphasized. (0/8/0/0), Prereq: MFG-227; Coreq: MAT-736, MFG-130, MFG-215; Arts & Sciences Elective Code: B

MFG-230 Advanced Machine Operations II 4
Continues MFG-228. Use of carbide cutters is emphasized. Productivity and safety continue to be emphasized, along with more complex prints and setups. (0/8/0/0), Prereq: MFG-228; Coreq: MAT-736, MFG-130, MFG-215; Arts & Sciences Elective Code: B

MFG-302 CNC Fundamentals 3

Introduces computer numerical control as it relates to CNC lathes and milling machines. The use of microcomputers and related software is covered. Emphasizes input language, codes, machine setup and operation, inspection of parts, and communication with peripherals. (1/4/0/0), Prereq: MFG-227, MFG-215; Arts & Sciences Elective Code: B

MFG-311 Intermediate CNC 6
Continues the introductory course adding canned cycles, looping, sub-routines and interpretation of programs written by others. Internal machining on the lathes is covered. More complex parts and production of multiple parts will be undertaken. (1/10/0/0), Prereq: MFG-302 or appropriate industrial experience; Arts & Sciences Elective Code: B

MFG-313 Advanced CNC 6
Allows students to progress from the trainers to the full-size industrial CNC machines. Conversational programming is introduced, and advanced projects involving mating parts and short production runs are undertaken. Students are introduced to computer-assisted programming as it applies to CAD/CAM. Routine and preventive maintenance procedures are learned. (0/12/0/0), Prereq: MFG-311 or appropriate industrial CNC programming experience; Arts & Sciences Elective Code: B

MFG-317 Automated Production Methods 5
Covers computer-assisted programming and introduces students to automation as it applies to machining operations. Automatic machine feeding, automatic cycle repetition, robots and other equipment-oriented concepts are studied. System concepts such as mass production, batch processing and just-in-time processing are covered from a theoretical view. (1/8/0/0), Prereq: MFG-313; Arts & Sciences Elective Code: B

MFG-318 Introduction to Fabrication Practices 5
Introduces basic theories and practices used in precision sheet metal fabrication, including layout, shearing, punching and bending. Students apply theory concepts through practical lab projects, with emphasis on shop safety, cooperation and communication. (2/6/0/0), Arts & Sciences Elective Code: B

MFG-390 Introduction to Automated Fabrication Practices 7
Introduces CNC through water jet and turret punch techniques. Emphasizes equipment operation, programming, safety and maintenance, offline programming and troubleshooting. (2/10/0/0), Prereq: MFG-318; Arts & Sciences Elective Code: B

MFG-391 Intermediate Automated Fabrication Practices 7
Continues MFG-390. Focuses on complex problem solving and application, with emphasis

on communications with respect to machines, computers or offline program systems. Introduces the laser cutter to demonstrate various cutting methods. (2/10/0/0), Prereq: MFG-390; Arts & Sciences Elective Code: B

MFG-392 Advanced Automated Fabrication Practices 7

Focuses on computer assist software for programming, and the steps of metal fabrication. Students complete multiple projects from start to finished product. (2/10/0/0), Prereq: MFG-391; Arts & Sciences Elective Code: B

MFG-420 Jig and Fixture Design 4

Covers theory of design and machining practices as they relate to jigs and fixtures used in manufacturing facilities. Introduces students to the importance of jig and fixture classification and to their uses in modern machine tools. (4/0/0/0), Prereq: MFG-213 or MFG-215; Arts & Sciences Elective Code: B

MFG-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MFG-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

MGT: MANAGEMENT

MGT-101 Principles of Management 3

Applies current techniques and methods to the management functions of planning, organizing, leading and controlling. Focuses on critical analysis, development and effectiveness of organizational processes. (3/0/0/0), Arts & Sciences Elective Code: A

MGT-121 Project Management Basics 3

Defines project management and examines the role of the project manager. Emphasizes on-the-job project management knowledge areas and processes. Practical applications and case studies are used to reinforce and apply concepts to real life situations. (3/0/0/0), Arts & Sciences Elective Code: B

MGT-124 Project Management Tools 3

Continues MGT-121, focusing on traditional project management tools and emerging project management technologies. Students develop a project plan, define and sequence tasks, identify critical path, allocate resources, estimate risks and maintain a budget. Uses popular project management software, such as MS Project and

MS Excel. (2/2/0/0), Prereq: MGT-121; Arts & Sciences Elective Code: B

MGT-128 Organizational Behavior 3

Explores problems and solutions of human behavior in organizations by studying the work of behavioral scientists and other experts. Actual case studies provide the transition from theory to practicality. Students develop skills to diagnose and improve group functioning and organizational effectiveness. (3/0/0/0), Arts & Sciences Elective Code: A

MGT-130 Principles of Supervision 3

Introduces the management functions of planning, organizing, leading and controlling. Focuses on technical supervision skills and human relations skills needed to develop a productive work team, and conceptual skills to group interdependent organizational processes. (3/0/0/0), Arts & Sciences Elective Code: B

MGT-133 Principles of Safety 1

Students learn to identify key terms related to occupational health and safety; gain understanding of the legal and regulatory issues affecting occupational health and safety in the workplace, particularly the requirements under OSHA; study safety-related programs and policies, and employers' related liabilities; and evaluate effective safety management techniques and employee safety training programs. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-134 Work Habits and Absenteeism 1

Normally taught as a one- or two-day workshop. Students are trained to develop a working atmosphere conducive to high productivity. Problem employees and their habits are identified. Students learn employee coaching techniques and policies that can be used to solve poor work habits and high absenteeism. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-135 Performance Appraisal for Managers 1

Covers effective employee performance planning and appraisal techniques. Students learn how to conduct performance reviews and how to provide positive performance coaching and feedback to employees. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-137 Developing Leadership Skills 1

Designed to give valuable suggestions on communicating effectively using coaching, counseling, delegating and performance reviews to develop subordinates. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-139 Effective Team Building for Managers 1

Participants learn the basics of team management, how to motivate team members, how to improve the communication process

and understand the principles of leadership. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-140 Time Management in the Workplace 1

Focuses on high performance work times, being effective vs. being efficient, time wasters and solutions to them. Students also learn organizational skills, how to set goals, plan and prioritize. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-145 Human Relations in Management 3

Emphasizes the importance of proper attitudes towards self, others and organization values. Stresses the development of a good self-concept and the relationship this has to energy levels, emotions, verbal and nonverbal communication. Prepares students to understand how to deal with conflict and how to be a productive member of a work group. (3/0/0/0), Arts & Sciences Elective Code: B

MGT-155 Integrated Project Management 3

Allows students to practice managing a variety of projects from initiation to completion. Students demonstrate technical and applied knowledge gained in their field, as well as critical thinking, diverse perspectives and communication skills. (3/0/0/0), Prereq: MGT-124; Arts & Sciences Elective Code: B

MGT-158 Office Supervision and Management 3

Develops vocabulary and knowledge needed to examine sound principles and successful practices used by office managers to effectively and efficiently manage an office. This course provides students an opportunity to hone essential soft skills while exploring human resource issues. In addition, students design and implement an etiquette training module. (3/0/0/0), Arts & Sciences Elective Code: A

MGT-160 Inventory Management 1

Studies the fundamentals of inventory management, inventory functions, orders and timing, warehouse purpose and layout, forecasting, records, and new trends in inventory management. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-170 Human Resource Management 3

Includes managerial philosophy of human resource administration, emphasizing the study of the personnel functions of recruiting, interviewing, selecting, placement, training and evaluating. Also addresses the issues of diversity in a dynamic environment. (3/0/0/0), Arts & Sciences Elective Code: A

MGT-172 Employment Practices for Human Resource Managers 1

Develops an understanding of governmental laws and regulations, and human resource policies and practices that should be considered in establishing a sound system for the recruitment,

Course Descriptions

selection, training and promotion of employees within any organization. The legal and regulatory factors that affect employee recruitment and selection practices are emphasized. Nondiscrimination and equal employment opportunity compliance issues are analyzed. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-173 Training and Employee Development 1
Introduces students to effective training techniques and strategies. Role-playing and case studies will be integral parts of the course. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-182 Negotiations and Labor Relations 3
Reviews the history of current labor and management positions. The role of the supervisor in solving labor disputes and grievances is examined. Students participate in mock bargaining negotiations, observing and critiquing conduct. Issues in the maintenance of union-free working environments are also discussed. (3/0/0/0), Arts & Sciences Elective Code: B

MGT-192 Managing Employee Benefit Programs 1
Participants receive an understanding of the importance of an effective employee benefit program within organizations. Students analyze various programs' strengths and weaknesses to adapt the elements of a successful system to their own organization. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-193 Wage and Salary Administration 1
Designed to provide a rational approach to the various elements of a compensation program: job descriptions, job evaluations, salary surveys and administration policies. (1/0/0/0), Arts & Sciences Elective Code: B

MGT-300 Introduction to Entrepreneurship 3
Examines the feasibility of a new business concept and the fundamentals of organizing a small business. Students measure their potential as an entrepreneur, identify business opportunities, examine entry strategies, understand the advantages and disadvantages of buying a business and evaluate the value of that business. Focuses on realizing business strengths, weaknesses, opportunities and threats. Implements the planning process through feasibility and business plans. (3/0/0/0), Arts & Sciences Elective Code: A

MGT-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an

honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MGT-928 Independent Study 1-4
Taken concurrently with a standard course in the student's area of specialty. Special projects and/or individual readings are assigned by the program coordinator or an individual staff member. Projects must be approved before the beginning of the semester in which the work is to be done. (1-4/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

MIL: MILITARY

MIL-100 Foundations of the U.S. Air Force I 1
Introduces the U.S. Air Force and Air Force Reserve Officer Training Corps (AFROTC). Features the history and structure of the Air Force, its capabilities, career opportunities, installations, and core values while developing team building, communication and leadership skills. (1/0/0/0), Arts & Sciences Elective Code: B

MIL-101 Foundations of the U.S. Air Force II 1
Continues Foundations I. Provides more information about the U.S. Air Force and Air Force Reserve Officer Training Corps (AFROTC). Features the history and structure of the Air Force, its capabilities, career opportunities, installations, and core values while developing team building, communication and leadership skills. (1/0/0/0), Arts & Sciences Elective Code: B

MIL-111 AFROTC Leadership Lab I 1
Develops knowledge of what is required to be an Air Force officer by honing leadership skills through hands-on experience and performing various tasks at the University of Iowa AFROTC Detachment. Faculty supervise all labs, but students plan and conduct all events. (1/0/0/0), Arts & Sciences Elective Code: B

MIL-112 AFROTC Leadership Lab II 1
Develops knowledge of what is required to be an Air Force officer by honing leadership skills through hands-on experience and performing various tasks at the University of Iowa AFROTC Detachment. Faculty supervise all labs, but students plan and conduct all events. (1/0/0/0), Arts & Sciences Elective Code: B

MIL-200 The Evolution of USAF Air & Space Power I 1
Presents general aspects of air and space power through historical perspectives. Covers the time from the first balloons and dirigibles to the Space Age global positioning systems of the Persian Gulf War. Historical examples define

the Air Force's capabilities and missions, and demonstrate the evolution of today's USAF air and space power. (1/0/0/0), Arts & Sciences Elective Code: B

MIL-201 The Evolution of USAF Air & Space Power II 1
Continues Evolution I. Presents additional information on the general aspects of air and space power through historical perspectives. Covers the time from the first balloons and dirigibles to the Space Age global positioning systems of the Persian Gulf War. Historical examples define the Air Force's capabilities and missions, and demonstrate the evolution of today's USAF air and space power. (1/0/0/0), Arts & Sciences Elective Code: B

MIL-211 AFROTC Leadership Lab III 1
Develops knowledge of what is required to be an Air Force officer by honing leadership skills through hands-on experience and performing various tasks at the University of Iowa AFROTC Detachment. Faculty supervise all labs, but students plan and conduct all events. (1/0/0/0), Arts & Sciences Elective Code: B

MIL-212 AFROTC Leadership Lab IV 1
Develops knowledge of what is required to be an Air Force officer by honing leadership skills through hands-on experience and performing various tasks at the University of Iowa AFROTC Detachment. Faculty supervise all labs, but students plan and conduct all events. (1/0/0/0), Arts & Sciences Elective Code: B

MKT: MARKETING

MKT-110 Principles of Marketing 3
Studies the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create the exchanges that satisfy individual and organizational goals. (3/0/0/0), Arts & Sciences Elective Code: A

MKT-140 Principles of Selling 3
Provides basic skills needed to sell goods and services in a marketing economic system. Students learn about careers in selling, buyer behavior, product knowledge and selling concepts. Emphasis is on problem solving. (3/0/0/0), Arts & Sciences Elective Code: A

MKT-145 Sales Management 3
Includes training, forecasting, territory assignment, budgeting, staffing, planning and evaluation in the study of managing salespersons in an organization. Students focus on management principles in solving sales and salesforce problems. Students use case methods

and the computer for problem solving and project completion. (3/0/0/0), Prereq: MKT-140; Arts & Sciences Elective Code: A

MKT-150 Principles of Advertising 3
Acquaints students with the philosophy of advertising, historical concepts, and practical applications of advertising at the local and national levels. Includes media and media selection, copywriting, and layout, with an emphasis on product selection for advertising. (3/0/0/0), Arts & Sciences Elective Code: A

MKT-160 Principles of Retailing 3
Studies retailing and its functions in a free enterprise system. All facets of retail operation are considered including planning, organization, personnel, facilities, control, pricing, buying, selling and promotion. (3/0/0/0), Arts & Sciences Elective Code: A

MKT-168 Buying and Merchandising Strategies 3
Studies buying and merchandising principles as they apply to management. Decision-making and critical thinking skills are developed in buying, inventory control and pricing. (3/0/0/0), Arts & Sciences Elective Code: B

MKT-180 Customer Service Strategies 1
Designed to help students target their customers and develop appropriate services. Discusses the use of effective customer services as a competition tool. (1/0/0/0), Arts & Sciences Elective Code: B

MKT-187 Perspectives in International Marketing 3
Provides an international perspective on marketing from a Danish and European perspective. Students travel to Denmark to study and compare that country's approach to marketing with that of North America. (3/0/0/0), Arts & Sciences Elective Code: B

MKT-190 International Marketing 3
Covers the theoretical and practical concepts of international marketing. A clear delineation of marketing functions in domestic and international business is stressed. Other topics covered include cultural dynamics of the global markets, political and legal environment and multinational markets. (3/0/0/0), Arts & Sciences Elective Code: A

MKT-195 Marketing Management 3
Examines the marketing process from product conception to production and delivery. Emphasizes marketing plan development, situation analysis, marketing strategies and product management for both new and current products. Utilizes a capstone simulation project to develop and enhance marketing and management skills. (3/0/0/0), Prereq: MGT-101,

MKT-110; Arts & Sciences Elective Code: A

MKT-297 Marketing and Advertising for Entrepreneurs 3
Introduces business concepts, market research and target markets. Focuses on understanding customers and the competition, product pricing, customer service and selling. Explores advertising media and conducting a successful marketing campaign using various forms of advertising and promotion. (3/0/0/0), Prereq: MGT-300

MKT-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MKT-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

MMS: MASS MEDIA STUDIES

MMS-101 Mass Media 3
Surveys the field of mass communications. Takes the theoretical position that mass communication is a social system, considering the functions, structure and performance of the individual medium, as well as the auxiliaries. (3/0/0/0), Arts & Sciences Elective Code: A

MMS-104 Introduction to Electronic Production 2
Presents basic principles and techniques used in audio and video production. Emphasizes studio operation, including how to operate cameras and studio switchers, and how to serve as floor director. Includes audio techniques such as operation of audio console and use of prerecorded music. (2/0/0/0), Arts & Sciences Elective Code: A

MMS-131 News Reporting 3
Involves an in-depth study of objective news reporting and advocacy journalism as well as training in writing leads, the news story, interviewing, copyright and editing. (3/0/0/0), Arts & Sciences Elective Code: A; Comments: Ability to type 30 wpm required

MMS-133 News Media Convergence 3
Introduces skills required for print, broadcast and Web journalism. Students develop skills that include identifying news, interviewing and event coverage, researching, reporting, writing print and broadcast material and converting it to the

Web. Final versions of stories will be evaluated for publication in the Communiqué, broadcast on KSP News and posted to the Kirkwood Student Media Web site. (3/0/0/0), Prereq: MMS-131; Arts & Sciences Elective Code: A; Comments: Permission of program coordinator

MMS-155 Photojournalism 2
Introduces communication with photo graphics, editing and combining words and photographs for newspapers, magazines and brochures. (1/2/0/0), Arts & Sciences Elective Code: A

MMS-200 Advanced Audio 2
Teaches recording, editing and audio production techniques. Students conduct interviews and create music sound tracks. (1/2/0/0), Prereq: MMS-104; Arts & Sciences Elective Code: A

MMS-215 Broadcast Writing and Performance 3
Emphasizes scripts and commercial writing skills. Students will announce and perform before microphones and cameras. (3/0/0/0), Arts & Sciences Elective Code: A

MMS-220 Advanced Television 2
Designed to teach students the proper operation of remote video and audio equipment. Course emphasizes script writing and videotape editing. Final projects will be televised on Kirkwood's cable channel. (1/2/0/0), Prereq: MMS-104; Arts & Sciences Elective Code: A

MMS-240 Promotions and Public Relations 3
Teaches students how to plan an effective promotional campaign by identifying target audiences, understanding the effect of mass communication media and preparing materials for media campaigns. Includes principles of design and layout. (3/0/0/0), Arts & Sciences Elective Code: A

MMS-920 Field Experience 3
Provides on-the-job training in the media field. (0/0/9/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor/coordinator

MMS-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MMS-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective



Course Descriptions

Code: A; Comments: Requires approval of supervising faculty member and dean

MMS-948 Special Projects 1
Provides opportunity to carry out a media project under professional direction. (0/2/0/0), Arts & Sciences Elective Code: A

MTR: MEDICAL TRANSCRIPTION

MTR-102 Professionalism in Medical Transcription 2
Provides an overview of the career through lectures, job shadowing and a tour, with an emphasis on professional issues and confidentiality. (1.5/1/0/0), Coreq: HSC-115; Arts & Sciences Elective Code: B

MTR-112 Medical Transcription 2
Develops skills of transcribing various medical reports with an emphasis on the proper use of medical terminology. Introduces transcription systems and management techniques. Confidentiality in the completion of medical reports is stressed. (1/2/0/0), Prereq: MTR-102; Coreq: HSC-115; Arts & Sciences Elective Code: B

MTR-150 Career Medical Transcription 5.5
Includes transcribing physician-dictated reports with an emphasis on developing accuracy, speed and medical knowledge for transcription of medical reports. Correct usage of grammar, punctuation, editing and proofreading skills are emphasized along with professionalism and confidentiality. (0/11/0/0), Prereq: HIT-600; Coreq: HSC-217; Arts & Sciences Elective Code: B; Comments: All Medical Transcription courses

MTR-180 Medical Transcription Professional Practice Experience 0.5
Combines the theory of medical transcription with supervised practice in selected health care settings. Introduces the student to the medical transcription department, its specific dictation transcribing system and routing of transcribed reports, including health care provider specific dictation practices. (0/0/1.5/0), Prereq: ADM-165, MTR-102; Coreq: HSC-217, MTR-150; Arts & Sciences Elective Code: B

MTR-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MTR-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences

Elective Code: A; Comments: Permission of instructor, dean

MUA: MUSIC - APPLIED

MUA-300 Applied Baritone 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-301 Applied Bassoon 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-302 Applied Cello 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-303 Applied Clarinet 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-304 Applied Drum Set 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-305 Applied Flute 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two

credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-306 Applied French Horn 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-307 Applied Guitar 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-308 Applied Oboe 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-309 Applied Organ 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-310 Applied Piano 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-311 Applied Saxophone 1-2
Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-312 Applied String Bass 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-313 Applied Synthesizer 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-314 Applied Trombone 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-315 Applied Trumpet 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-316 Applied Tuba 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-317 Applied Viola 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-318 Applied Violin 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two

credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUA-319 Applied Voice 1-2

Course work in Applied Music requires 14 lessons during the semester. Students may enroll in one or two credit hours on the same instrument. May be repeated for credit. One half-hour lesson per week for one credit; one hour per week for two credits. Additional outside practice/preparation is required. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUS: MUSIC - GENERAL

MUS-100 Music Appreciation 3

Includes study of elements and forms of music with attention to major historical periods and composers of historical significance and survey of indigenous music. (3/0/0/0), Arts & Sciences Elective Code: A

MUS-102 Music Fundamentals 3

Introduces music majors and nonmajors to the principal elements of music theory including notation, melody, choral harmony and musical form. Intended for students with strong interest but limited background in music theory. (3/0/0/0), Arts & Sciences Elective Code: A

MUS-120 Music Theory I 3

Studies notation, scales, modes, intervals, tonality, harmony, melody, instruments, voices, four-part writing, harmonic progression and style periods. (3/0/0/0), Arts & Sciences Elective Code: A

MUS-121 Music Theory II 3

Studies the major-minor dominant seventh chord; the diminished chords; modulation; nondominant seventh chords; secondary dominant chords; binary and ternary form; American popular song; and blues, boogie and jazz. (3/0/0/0), Prereq: MUS-120; Arts & Sciences Elective Code: A

MUS-135 Music Theory Lab I 1

Concentration on developmental skills in the aural recognition of triads, intervals, scales, simple rhythms, definition of chord progressions, sight singing and simple dictation. (0/2/0/0), Arts & Sciences Elective Code: A

MUS-136 Music Theory Lab II 1

Continuation of Music Theory Lab I. (0/2/0/0), Prereq: MUS-135; Arts & Sciences Elective Code: A

MUS-140 Concert Choir 1

Serves students with ability and desire to sing in a mixed-voice group. May be repeated for credit. (0/0/3/0), Arts & Sciences Elective Code: A

MUS-145 Concert Band 1

Introduces new literature each semester to extend the experience of the student's learning to read

and play different styles and tempos. This group is open to community members and does not require an audition. (0/2/0/0), Arts & Sciences Elective Code: A

MUS-150 Chamber Ensemble 1

Students practice and perform traditional literature for trios, quartets and other small groups. (0/2/0/0), Arts & Sciences Elective Code: A

MUS-157 Vocal Jazz Ensemble 1

Provides auditioned members an opportunity to sing a variety of jazz styles from traditional to contemporary arrangements. May be repeated for credit. (0/5/0/0), Arts & Sciences Elective Code: A

MUS-163 Instrumental Jazz Ensemble 1

Explores various styles of jazz from traditional to contemporary through a performance-oriented class. May be repeated for credit. (0/0/0/4), Arts & Sciences Elective Code: A

MUS-165 Jazz Combo 1-2

Explores various styles of jazz in a small group setting and emphasizes improvisational techniques. This course must be taken for a grade, may not be challenged and is transferable. (0/2-4/0/0), Arts & Sciences Elective Code: A

MUS-191 Jazz Improvisation 2

Studies theoretical principles and techniques used in the jazz idiom. Provides opportunity for application of music theory at the performance level to include scales, chord progressions, melodic patterns and rhythmic elements. Recommended for both instrumentalists and vocalists. (2/0/0/0), Arts & Sciences Elective Code: A

MUS-193 Jazz Improvisation II 2

Continues the study as outlined in Jazz Improvisation. (2/0/0/0), Prereq: MUS-191; Arts & Sciences Elective Code: A

MUS-208 Rock, Jazz and Blues Music 3

Explores American rock, jazz and blues music in the 20th century. Emphasis on major composers, bands and performers 1900-present. Examines American popular music trends and styles through lecture, discussion and listening. (3/0/0/0), Arts & Sciences Elective Code: A

MUS-209 Topics in Western Music History 3

Examines style periods, composers and works of Western art music from c. AD 600 to the present, and explores the issues that influenced their composition. Through reading, listening and discussion, the course builds a basic musical vocabulary, improves aural perceptions of form and genre, and encourages a deeper appreciation for music as cultural expression and personal enrichment. Music reading is helpful, but not necessary. Intended for students with strong interest in music. (3/0/0/0), Arts & Sciences Elective Code: A

MUS-220 Music Theory III 3

Course Descriptions

Studies 16th century polyphony; 18th century counterpoint (including the fugue); variation technique; 19th century Romanticism; borrowed chords; 9th, 11th and 13th chords, the neapolitan 6th chord; augmented 6th chords; altered dominants; and chromatic mediants. (3/0/0/0), Prereq: MUS-121; Arts & Sciences Elective Code: A

MUS-221 Music Theory IV 3
Studies form with emphasis on sonata-allegro and rondo, devices of the late 19th and early 20th centuries, the contemporary period and particular analysis of significant works by 20th century composers, serialism, and new trends since 1970. (3/0/0/0), Prereq: MUS-220; Arts & Sciences Elective Code: A

MUS-235 Music Theory Lab III 1
Aural dictation and transcribing more complex melodies, rhythms, chords, four-part writing, recognition of various 7th chords, compound intervals and sight singing, including duets. (0/2/0/0), Prereq: MUS-136; Arts & Sciences Elective Code: A

MUS-236 Music Theory Lab IV 1
Continuation of Music Theory Lab III. (0/2/0/0), Prereq: MUS-235; Arts & Sciences Elective Code: A

MUS-261 Intro to MIDI 2
Provides an overview of and practical experience with a number of commercially available music-related hardware and software products. A basic understanding of the Musical Instrument Digital Interface (MIDI) and its application to composition, orchestration, film scoring, recording, performance and education is required. Other technology includes electronic keyboards, tone generators, digital recording systems, CD-ROM, multimedia and videodisc. Software categories include sequencers, notation packages, interactive software and educational programs. (2/0/0/0), Arts & Sciences Elective Code: A; Comments: Knowledge of basic music fundamentals required.

MUS-268 Audio Recording I 3
Studies the techniques of audio recording. Students learn about the fundamentals of sound: how to capture it and use the editing software ProTools LE and the many processing plug-ins as well as soft synths. Students learn the specifics of all components involved in the chain of signal flow and the recording process. (3/0/0/0), Arts & Sciences Elective Code: A

MUS-269 Audio Recording II 3
Continues the study of techniques in audio recording. Students expand upon their knowledge of the fundamentals of sound and work with diverse musical ensembles such as a classical piano trio, a jazz band and a rock group, among others. Students use the micing techniques and ProTools skills developed in Audio Recording I on large-scale recording projects. Students work on achieving the proper balance and blend between instruments of different families while

bringing out the musical strengths of each unique ensemble. (3/0/0/0), Prereq: MUS-268; Arts & Sciences Elective Code: A

MUS-284 Songwriting 2
Develops skills in melody, harmony and arranging, as well as creative approaches to musical composition, lyric writing and an individual writing style. Students focus on both songwriting and performance, culminating in a portfolio of their original songs. Emphasis is on computer music technology. Students complete a portfolio of several songs that typify various current practices of contemporary songwriters. (2/0/0/0), Arts & Sciences Elective Code: A; Comments: Basic music fundamentals, familiarity with basic computer skills. Requires permission of instructor.

MUS-298 Performance Seminar for Musicians 1
Provides the opportunity to develop and improve performing techniques required of all musicians. Emphasizes student performances, development of repertoire and discussion of performance style. Required of all music majors and open to all students enrolled in applied lessons. May be taken four times for credit. (0/2/0/0), Coreq: Any applied music lesson MUA-300 through MUA-319; Arts & Sciences Elective Code: A

MUS-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

MUS-928 Independent Study 1-2
Allows the student to pursue a special concentration of music study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

NET: COMPUTER NETWORKING

NET-122 Computer Hardware Basics 3
Introduces the operation of a modern personal computer from a hardware point of view. Students learn about the basic components of a computer and develop troubleshooting skills for advanced courses. Some of the areas covered include system boards, storage drives, memory and power supplies. In addition, some software topics, such as operating systems, are presented. Low-level laboratory exercises enhance and reinforce understanding of the material covered. (2/2/0/0), Arts & Sciences Elective Code: B

NET-137 Advanced PC Concepts 3
Follows and builds on the prerequisite, Computer Hardware Basics. The first half of the course is spent reviewing, but also going into more depth on the topics covered in the beginning hardware

course. The second half of the course deals primarily with software considerations (such as BIOS, drivers and operating systems) necessary to understanding how modern PCs work. Throughout the course, tie-in to A+ certification topics is done for the benefit of those who plan to take the Comp-TIA exam. (2/2/0/0), Prereq: NET-122; Arts & Sciences Elective Code: B

NET-146 Introduction to Local Area Networking 3
Covers the basics of Local Area Network (LAN) technology and how various hardware and software work together. Covers issues facing local area network users today, including network security and compatibility between a network operating system and application software. (3/0/0/0), Arts & Sciences Elective Code: B

NET-154 Networking Basics 3
Introduces the foundations of networking, including concepts, terminology and practical experience, to explore entry-level career opportunities in IT and networking. Provides a hands-on approach to learn and use networking tools as they apply to home and small businesses. (2/2/0/0), Arts & Sciences Elective Code: B

NET-174 LAN Administration 3
Focuses on the hardware and software requirements of a client-server network, the installation process, workstation configuration and configuration of the user environment using a current network operating system. Includes workstation and server configuration, network printing setup, creation and management of network user accounts, security, scripting, directory structures, and file server management and monitoring. Introduces network administrator duties, such as network configuration and system support. (2/2/0/0), Prereq: NET-212; Arts & Sciences Elective Code: B

NET-177 Special Topics in Local Area Network Management 3
Provides students with hands-on experience and theory topics for preparation to sit for the Certified Cisco Network Administrator (CNA) exam. Topics include router configuration, WAN communication protocols, access control lists, router command line interface, and LAN switch configuration. (2/2/0/0), Arts & Sciences Elective Code: B

NET-184 Wide Area Network (WAN) Basics 2
Introduces the student to concepts used to connect multiple local area networks to form a wide area network. Topics include routing, hardware used to connect network segments, leased telephone lines, dial-up telephone lines and other transmission media. (2/0/0/0), Prereq: NET-222; Arts & Sciences Elective Code: B

NET-190 Critical Problem Solving 1
Assigns everyday opportunities to the student to research, hypothesize several solutions and

use one of the solutions to solve the problem effectively and efficiently. (1/0/0/0), Arts & Sciences Elective Code: B

NET-192 Network Cabling 3

Introduces students to the advanced concepts of network infrastructure. Students learn what types of media are used and the concepts about the manufacture and installation of that media. Additionally, students work with copper media in installation, trim-out and finishing. Other topics include infrastructure standards, request for proposals and basic electrical theory. (2/2/0/0), Prereq: NET-232; Arts & Sciences Elective Code: B

NET-212 Cisco Networking 3

Provides the student with a basic understanding of networking. Topics include OSI model and industry standards, network topologies, IP addressing with subnet mask, networking components and basic network design. This course is the prerequisite to Cisco NetWare Routing, Cisco Router Basics and Cisco Telecommunications. (2/2/0/0), Arts & Sciences Elective Code: B

NET-222 Cisco Routers 3

Introduces students to the Cisco family of routers, setup, configuration and management of using routers in a network environment. (2/2/0/0), Prereq: NET-212; Arts & Sciences Elective Code: B

NET-232 Cisco Switches 3

Introduces the concepts and terminology, through a comprehensive, theoretical and practical approach, to network and protocol design for implementation of converged switched networks. Includes hierarchical network design, device selection, basic switch configuration, implementing virtual LANs with VLAN Trunking Protocol, and Inter-VLAN routing within a small-to-medium converged network. (2/2/0/0), Prereq: NET-222; Arts & Sciences Elective Code: B

NET-242 Cisco Wide Area Networks (WAN) 3

Provides the student with a basic understanding of how Cisco routers are integrated with PBX interfaces. Topics include hardware used to connect networks using leased and dial-up telephone lines. (2/2/0/0), Prereq: NET-232; Arts & Sciences Elective Code: B

NET-321 Windows Networking 3

Allows students to design and build LANs with various versions of Microsoft Windows workstation software. Students learn software and hardware requirements, operating system installation, operation and maintenance, and networking techniques. (2/2/0/0), Prereq: NET-154 or NET-212; Arts & Sciences Elective Code: B

NET-323 Windows Network Management 3

Explains administrative duties for Windows

Server 2003. Includes installing, configuring and maintaining client and server operating systems, monitoring performance and supporting users, evaluating different versions of Server 2003, exploring services such as DHCP, Clustering, Remote Access, DNS, Virtual Private Networking, and learning to implement security using permissions, encryption and policies. (2/2/0/0), Prereq: NET-321; Arts & Sciences Elective Code: B

NET-338 Directory Concepts 3

Covers basic network design, how directory services are used to manage users, and how to pick servers based on proper utilization. Students learn basic elements and design of both Novell E-directory, Microsoft active directory and related LDAP directory services. Additionally, students are introduced to server concepts including system requirements, volume management and security. (3/0/0/0), Prereq: NET-212; Arts & Sciences Elective Code: B

NET-400 Linux Networking 3

Focuses on Linux GUI. Introduces Linux installation, navigating the Linux GUI, creating Linux users and groups, setting up Linux file and directory permissions, managing the Linux file system, using the Linux control panel to customize the system, configuring the Linux network, and developing basic command line and DNS skills. (2/2/0/0), Prereq: NET-321; Arts & Sciences Elective Code: B

NET-561 Directory Administration 3

Continues Directory Concepts. Focuses on implementation of Active Directory using Windows Server, and eDirectory using NetWare 6.x. Includes configuration and management of organizations, users, groups, printers, file systems, and many other directory service objects. Introduces virtualization concepts and students deploy software in a virtual environment. (2/2/0/0), Prereq: NET-174, NET-338; Arts & Sciences Elective Code: B

NET-571 Server Configuration 3

Emphasizes managing Linux in a multi-server enterprise environment. Introduces enterprise-level skills in integrating Linux servers in a multiple server environment, configuring advanced network services such as FTP, VPNs, remote management, Web services, DNS, DHCP, LDAP Directory Services, logical volume management, scripting and advanced software installation. Other services may include e-mail and LAMP package management. (2/2/0/0), Prereq: NET-400; Arts & Sciences Elective Code: B

NET-600 Network Security Basics 3

Introduces students to basic network security

concepts. The non-vendor specific course includes general security concepts, authentication, attacks, secure communications and Internet security. Additional topics include perimeter defense and intruder detection. This course begins student preparation for the Security+ exam. (2/2/0/0), Prereq: NET-174, NET-212; Arts & Sciences Elective Code: B

NET-618 Network Defense & Remote Access Configuration 3

Focuses on network defenses and defensible networks. Includes basic network defense topologies, basic DMZ configuration, basic intrusion detection configuration and logical security management (proper address assignment, software configuration). Examines identity management systems, such as directory services, to provide authentication, authorization and auditing for sound security management. Includes basic remote access configuration. (2/2/0/0), Prereq: NET-600, NET-630; Arts & Sciences Elective Code: B

NET-619 Network Attacks: Detection, Analysis & Countermeasures 3

Provides students the opportunity to attack computer networks to test their defenses and teaches them how to analyze attacks. Topics include attacks and attack analysis, intrusion detection and analysis, and advanced defense countermeasure configuration using firewalls, routers and intrusion detection systems. (2/2/0/0), Prereq: NET-618; Arts & Sciences Elective Code: B

NET-630 Cyber Law and Ethics 3

Covers basic laws and ethical behavior associated with network security. Topics include discussions about current common practices used to secure networks as well as test them, and the potential these methods can have in creating a secure network environment. Also included are discussions about HIPAA and Sarbanes-Oxley laws, and the impact they have on information technology practices. (3/0/0/0), Coreq: NET-600; Arts & Sciences Elective Code: B

NET-680 TCP/IP for Networking 3

Introduces students to the concepts of the TCP/IP suite of protocol. Students learn IP addressing, dynamic host configuration protocol, domain name services, universal naming conventions and how this protocol is used to connect to the Internet. (2/2/0/0), Prereq: NET-232; Arts & Sciences Elective Code: B

NET-700 Database Fundamentals 3

Provides an introduction to basic relational database design and development concepts. Students learn the fundamentals of logical data modeling to transform business data requirements

Course Descriptions

into an operational database. Requires the completion of a model database designed to meet business specifications. Topics included to facilitate the success of the project design are data relationships, normalization and constraints. (2/2/0/0), Arts & Sciences Elective Code: B

NET-785 Fundamentals of Desktop Support 3

Introduces the concepts of supporting personal computers as a career. Students improve their proficiency in providing personal computer support by troubleshooting real-life scenarios including specification/management considerations, and customer service skills. Lab may include students volunteering at not-for-profit organizations upgrading computers and computer peripherals. (2/2/0/0), Arts & Sciences Elective Code: B

NET-850 Special Topics for PC Technicians 3

Focuses on the two intertwining themes of today's networking technician: the history/future of computer technology and the social implications of that technology. Projects, expert speakers and possibly field trips are used to help explore such diverse topics as ethical computing, computer career trends, encryption and security, the wireless world, and the human face of computing. (2/2/0/0), Prereq: NET-122; Arts & Sciences Elective Code: B

NET-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

NET-928 Independent Study 1

Provides readings, papers and basic research on other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

OTA: OCCUPATIONAL THERAPY ASSISTANT

OTA-100 Foundations of Occupational Therapy 4

Introduces the philosophical, ethical and theoretical concepts of the current practice of occupational therapy. Provides an overview of the role of the OTR and COTA in the processes of patient evaluation, treatment planning, implementation and discharge. Presents note writing, goal development and an introduction to medical terminology. (3/2/0/0), Arts & Sciences Elective Code: B

OTA-207 OT Methods I 3

Introduces methods and techniques used in OT. Provides knowledge and skill in the use of activity analysis, task analysis and occupational performance. Addresses human diversity in

relation to occupation. (2/2/0/0), Arts & Sciences Elective Code: B

OTA-208 Occupational Development 3

Presents normal physical and psychosocial development processes which affect an individual throughout the lifespan. Emphasis on integration of physical, psychosocial, cognitive, social and cultural aspects of occupational development. Clinic observation experience is included. (2/0/1.5/0), Prereq: OTA-100, OTA-207, PSY-111; Arts & Sciences Elective Code: B

OTA-209 Wellness and Prevention in OT 2

Provides knowledge and instruction of prevention and maintenance techniques for optimal occupation performance. (1/2/0/0), Prereq: BIO-161, OTA-100, OTA-207, PSY-111; Arts & Sciences Elective Code: B

OTA-211 Pathophysiology for the OTA 4

Presents clinical disorders and diseases commonly treated in the field of occupational therapy. Pathology, etiology, diagnosis, signs, symptoms and prognosis are covered. (4/0/0/0), Prereq: BIO-161, OTA-100, OTA-207; Arts & Sciences Elective Code: B

OTA-212 Functional Kinesiology 3

Provides a basic understanding of normal body movement as related to skeletal, muscular and neurological systems. Students learn muscle origin, insertion and action, joint structure, anatomical palpation, human gait, and movement analysis during functional activities and daily life skills. (2/2/0/0), Prereq: BIO-161, OTA-100; Arts & Sciences Elective Code: B

OTA-306 OT Methods II 3

Presents evaluations and treatment methods for individuals and groups used in occupational therapy. Emphasis on the instruction and adaptation of daily living skills and sensorimotor activities. Presents information on positioning and wheelchair selection. Documentation of the treatment process is presented. (2/2/0/0), Prereq: OTA-207; Arts & Sciences Elective Code: B

OTA-308 Physical Dysfunction I 4

Presents theory, evaluation and treatment technique for physical and cognitive occupational dysfunction. (3/2/0/0), Prereq: OTA-100, OTA-211, OTA-212; Arts & Sciences Elective Code: B

OTA-309 Physical Dysfunction II 4

Students apply treatment technique for physical and cognitive disabilities. (3/2/0/0), Prereq: OTA-308; Arts & Sciences Elective Code: B

OTA-405 Psychosocial Dysfunction 4

Presents diagnosis, symptomology and etiology of psychosocial dysfunction. Discusses theory, evaluation, and treatment techniques for individuals and groups with psychosocial impairments. Provides knowledge of OTR and

COTA role delineation in psychiatric settings. (4/0/0/0), Prereq: OTA-208, OTA-211; Arts & Sciences Elective Code: B

OTA-406 OT Methods III 3

Presents information on the evaluation and treatment methods for work, leisure, psychosocial, cognitive and perceptual activities. Presents the fabrication of splints and use of orthotics. Technology and physical agent modalities are discussed. (2/2/0/0), Prereq: OTA-306; Arts & Sciences Elective Code: B

OTA-409 Professional Development 2

Includes the basic principles of management for the OTA. Topics include levels of authority and responsibility, supervisory process, performance appraisals, and policies and procedures. State and professional association regulations and legal/ethical issues are discussed. Reimbursement systems and their impact on health care are explored. Resumé writing, interviewing and employability skills are covered. (2/0/0/0), Prereq: OTA-850; Arts & Sciences Elective Code: B

OTA-410 Pediatric Interventions for the OTA 2

Provides knowledge and skills for the assessment, treatment planning and treatment for the unique needs of the pediatric population. (2/0/0/0), Prereq: OTA-208, OTA-209, OTA-306; Arts & Sciences Elective Code: B

OTA-411 Geriatric Interventions for the OTA 1.5

Provides knowledge and skills for assessment and treatment of the geriatric population. (1.5/0/0/0), Prereq: OTA-208, OTA-306, OTA-309; Arts & Sciences Elective Code: B

OTA-850 Occupational Therapy Assistant 1 Fieldwork I-A

Fieldwork and seminar experiences to provide opportunities to develop observational, interpersonal, and communication abilities. Experience includes involvement with disabled and non-disabled individuals. (0.5/0/1.5/0), Prereq: OTA-208, OTA-209, OTA-211, OTA-212, OTA-306; Arts & Sciences Elective Code: B; Comments: First, second semester OTA technical courses.

OTA-851 Occupational Therapy Assistant 2.5 Fieldwork I-B

Fieldwork and seminar experiences to provide opportunities to develop observational, interpersonal and communication skills. Experience includes involvement with disabled and nondisabled individuals. (1.5/0/3/0), Prereq: OTA-850; Arts & Sciences Elective Code: B

OTA-852 Occupational Therapy Assistant 6.5 Fieldwork II-A

A supervised Level II fieldwork experience emphasizing physical dysfunction, psychosocial

or specialty practices in occupational therapy. Provides experience developing the responsibilities expected of an entry-level occupational therapy assistant. (0.5/0/18/0), Prereq: OTA-851; Arts & Sciences Elective Code: B; Comments: All previous OTA technical courses.

OTA-854 Occupational Therapy Assistant Fieldwork II-B 6.5

A supervised Level II fieldwork experience emphasizing physical dysfunction, dysfunction, psychosocial or specialty practices in occupational therapy. Provides experience developing the responsibilities expected of an entry-level occupational therapy assistant. (0.5/0/18/0), Coreq: OTA-852; Arts & Sciences Elective Code: B

OTA-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

OTA-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

PEA: PHYSICAL EDUCATION ACTIVITY

PEA-110 Badminton I 1

Introduces the basic skills (forehand, backhand, service), strategy and rules of badminton. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-117 Bowling I 1

Develops the basic skills necessary for a beginning bowler. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-134 Golf I 1

Develops the basic skills necessary for a beginning golfer. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-136 Karate/Self Defense I 1

Provides an introduction to karate and self-defense via basic attack and defense techniques, prearranged sparring, forms and developing an appropriate physical awareness and philosophical attitude. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-150 Powerwalking 1

Introduces fitness walking and jogging as a lifetime endeavor to improve health and fitness. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-154 Racquetball I 1

Introduces students to the rules, strategies and shots involved in the game. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-174 Tennis I 1

Introduces the basic skills (forehand, backhand, service), strategy and rules of tennis. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-176 Volleyball I 1

Instructs students in the basic rules and fundamentals of volleyball including on-court participation. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-187 Weight Training I 1

Provides the student with the basics of weight conditioning, as well as a general workout opportunity. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-287 Weight Training II 1

Provides further experiences in weight conditioning, such as circuit training and variation in the training regime. (0/2/0/0), Arts & Sciences Elective Code: A

PEA-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PEA-928 Independent Study 1-2

Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

PEC: COACHING OFFICIATING

PEC-111 Techniques and Theory of Coaching 2

Introduces the philosophical and ethical issues in athletic coaching. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-116 Athletic Development and Human Growth 2

Assists students in understanding some of the basic concepts of sports psychology. Consists of improving human skill, enhancing group effort and understanding the reduction of stress. Encompasses some of the diverse topic areas important to both psychologists in general and those focused on athletic feats. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-125 Athletic Injury Prevention 2

Introduces conditioning programs and training methods that tend to prevent athletic injuries.

Provides basic skills in injury evaluation and acquaints the student with treatment procedures while providing practical experience in taping techniques. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-140 Theory of Coaching Softball 2

Studies the theory and practice of coaching softball. Emphasis on skill development and playing strategy with consideration given to rules and teaching pedagogy so that the game may be effectively coached. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-144 Theory of Coaching Baseball 2

Introduces the coaching profession with specific emphasis on baseball fundamentals, strategy, organization, public relations and coaching psychology. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-148 Theory of Coaching Basketball 2

Introduces the coaching profession with specific emphasis on basketball fundamentals, strategy, organization, public relations and coaching psychology. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-150 Theory of Coaching Volleyball 2

Introduces the theory and practice of coaching volleyball. Emphasis on volleyball fundamentals, playing strategy, organization, public relations and coaching psychology. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-160 Sports Officiating 2

Teaches the fundamentals, techniques, rules, procedures and professional attitudes required of officials in two major sports. (2/0/0/0), Arts & Sciences Elective Code: A

PEC-220 Techniques of Teaching Individual and Dual Sports 2

Teaches the techniques required in a variety of sports, i.e. racquetball, tennis and golf, as well as teaching methodologies involved. Observation of physical education classes at the elementary, junior and senior high school level is an integral part of the course. (1/2/0/0), Arts & Sciences Elective Code: A

PEC-221 Techniques of Teaching Team Sports 2

Teaches the techniques required in a variety of sports, i.e. basketball, softball and volleyball, as well as teaching methodologies involved. Observation of physical education classes at the elementary, junior and senior school high level is an integral part of the course. (1/2/0/0), Arts & Sciences Elective Code: A

PEC-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than

Course Descriptions

once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PEC-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

PEH: GENERAL PHYSICAL EDUCATION & HEALTH

PEH-111 Personal Wellness 3
Emphasizes the importance of personal responsibility in health and wellness. Focuses on personal decisionmaking in cardiovascular fitness, muscular fitness, nutrition and weight control, as well as aging and health. Improving and maintaining quality of life through health and healthy decisions is an ongoing theme throughout this course. (3/0/0/0), Arts & Sciences Elective Code: A

PEH-155 Exercise Psychology 3
Provides an overview of the theories and practices related to engagement in physical activity. Emphasizes motivational theories of behavior and behavior changes as they relate to exercise and health behaviors. (3/0/0/0), Arts & Sciences Elective Code: A

PEH-162 Introduction to Physical Education 3
An overview of the foundations, philosophies, history and principles of physical education. (3/0/0/0), Arts & Sciences Elective Code: A

PEH-210 Elementary Physical Education 3
Introduces teaching methods and experience in elementary activities. (3/0/0/0), Arts & Sciences Elective Code: A

PEH-255 Principles of Sport Management 3
Provides an overview of the theories and practices related to management and leadership in the fitness and sports industries. (3/0/0/0), Arts & Sciences Elective Code: A

PEH-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PEH-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective

Code: A; Comments: Requires approval of supervising faculty member and dean

PEV: INTERCOLLEGIATE PHYSICAL EDUCATION

PEV-115 Varsity Baseball 1
Designed to give credit for knowledge and skills gained through varsity sports baseball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-121 Varsity Basketball, Men 1
Designed to give credit for knowledge and skills gained through varsity sports basketball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-122 Varsity Basketball, Women 1
Designed to give credit for knowledge and skills gained through varsity sports basketball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-140 Varsity Golf 1
Designed to give credit for knowledge and skills gained through varsity sports golf participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-160 Varsity Softball 1
Designed to give credit for knowledge and skills gained through varsity sports softball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-170 Varsity Volleyball 1
Designed to give credit for knowledge and skills gained through varsity sports volleyball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits

total in Varsity sports participation courses.

PEV-215 Varsity Baseball II 1
Designed to give credit for knowledge and skills gained through varsity sports baseball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-221 Varsity Basketball II, Men 1
Designed to give credit for knowledge and skills gained through varsity sports basketball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-222 Varsity Basketball II, Women 1
Designed to give credit for knowledge and skills gained through varsity sports basketball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-240 Varsity Golf II 1
Designed to give credit for knowledge and skills gained through varsity sports golf participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-260 Varsity Softball II 1
Designed to give credit for knowledge and skills gained through varsity sports softball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits total in Varsity sports participation courses.

PEV-270 Varsity Volleyball II 1
Designed to give credit for knowledge and skills gained through varsity sports volleyball participation during an academic year. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Students may earn one credit per year for each varsity sport in which they participate. Students in multiple varsity sports may earn four credits

total in Varsity sports participation courses.

PEV-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PEV-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising faculty member and dean

PHI: PHILOSOPHY

PHI-101 Introduction to Philosophy 3
Investigates some of the fundamental issues in human existence - for example human nature, the nature of reality, the good life, how and what we know, the existence of God(s), justice and freedom, and free will and determinism – through readings and discussions of seminal philosophical texts in Western or non-Western traditions. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-105 Introduction to Ethics 3
Investigates major issues and theories in Western or non-Western moral thought. The adequacies of ethical theories such as egoism, utilitarianism, virtue ethics, the ethics of care, and duty ethics are explored through discussions of topics such as those found in medicine, the media, the environment, social justice, education, gender relations, war, business and family life. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-111 Basic Reasoning 3
Introduces both formal and informal aspects of reasoning and argument including principles of deductive reasoning, inductive reasoning, informal fallacies and critical thinking. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-125 Introduction to Non-Western Philosophy: Native American Philosophies 3
Introduces some of the main philosophies of Native Americans. This course includes study of the histories and cultures of Native American groups with a focus on philosophical perspectives. This course examines metaphysics,

epistemology, ethics, aesthetics, social philosophy and philosophy of nature of various Native American philosophical traditions, and those views will be contrasted with a variety of Western philosophical traditions. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-126 Introduction to Non-Western Philosophy: Chinese Philosophies 3
Introduces some of the main philosophies of the Chinese tradition. This course includes study of the history and culture of China, especially the Classical Period, with a focus on philosophical perspectives. The majority of time will be spent studying classical Chinese Confucianism, Taoism, Mohism and Legalism, with some emphasis on Chinese Buddhism and Neo-Confucianism. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-130 Philosophy of Human Nature 3
Investigates some important theories of human nature through discussions of such issues as the mind-body problem, the nature of freedom, social contracts, the roles of nature and nurture, the meaning of life, and happiness. Though the course will consider mainly philosophical texts, it may also include material from disciplines such as biology, literature, psychology and anthropology. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-132 Philosophy of Education 3
Investigates the nature and purposes of education and the major issues and theories in the philosophy of education. The educational philosophy of thinkers from Plato and Aristotle to Hobbes and Rousseau to Whitehead, Dewey, Fraire, Hooks, Palmer and Gutman are examined by exploring issues such as democracy and education, models of teaching and learning, testing and assessment, implications of development theories, children’s rights, equity issues, and multiculturalism. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-150 Social & Political Philosophy 3
Examines theories of society and the political state, such as paternalism, absolutism, theocracy, democracy, conservatism, liberalism, socialism, feminism and pluralism. Explores public values, such as justice, liberty and equality, as they apply to issues of state power, political obligation, property and class, race, ethnicity, gender/sexuality and the environment. (3/0/0/0), Prereq: PHI-101, PHI-105, PHI-111 or PHI-130; Arts & Sciences Elective Code: A

PHI-160 Environmental Ethics 3

Examines contemporary environmental issues in light of traditional and contemporary ethical thought. Explores concerns such as species extinction, global climate change, ecosystemic degradation, animal rights, and unequal effects of environmental harm on humans. Ethical perspectives include duty ethics, utilitarianism, ethics of care, virtue ethics, deep ecology, ecological feminism, the land ethic, and social ecology. (3/0/0/0), Arts & Sciences Elective Code: A

PHI-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PHI-928 Independent Study 1
Provides readings, papers, study and/or research under the guidance of a faculty member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

PHR: PHARMACY TECH

PHR-118 Pharmacy Technician 5
Provides the knowledge and skills necessary for employment as a pharmacy technician in a retail or hospital pharmacy under the direct supervision of a pharmacist. Structured to prepare learners for the National Pharmacy Technician Certification Exam. Includes basic understanding of medications, prescriptions and terminology, record keeping, ethics and jurisprudence, as well as the role of the pharmacy technician. The program consists of 75 hours of classroom work comprised of lecture, tests, and hands-on practice. Students also complete preceptorships of eight hours in a retail pharmacy and eight hours in a hospital pharmacy. (4.5/1/0/0), Arts & Sciences Elective Code: B

PHR-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PHR-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

PHS: PHYSICAL SCIENCE

PHS-151 Introduction to Astronomy 3



Course Descriptions

Centers around a variety of topics including the universe and the earth in space, properties of stars, nuclear energy sources, the solar system, quasars, black holes and life in the universe. Laboratories and observations are incorporated. (2/2/0/0), Arts & Sciences Elective Code: A

PHS-170 Physical Geology 3

Presents basic concepts in geology, i.e. earth materials and processes, historical geology and geological resources. Constructive and destructive forces involved in shaping the planet are discussed. Plate tectonics and sea-floor spreading serve as a unifying factor for the course. (3/0/0/0), Arts & Sciences Elective Code: A; Comments: Either Physical Geology (PHS-170) or Environmental Geology (PHS-175) will satisfy three hours of science core requirements. However, both cannot be counted toward meeting core. If both courses are taken, the second will count as an elective.

PHS-171 Physical Geology Lab 1

Designed to be taken with PHS-170. (0/2/0/0), Coreq: PHS-170; Arts & Sciences Elective Code: A

PHS-175 Environmental Geology 3

Examines the effects of geological processes and geohazards on human life and activities. Course also concentrates specifically on those geological factors that are key components of modern problems of pollution, waste disposal, construction, economics, etc. (3/0/0/0), Arts & Sciences Elective Code: A; Comments: Either Physical Geology (PHS-170) or Environmental Geology (PHS-175) will satisfy three hours of science core requirements. However, both cannot be counted toward meeting core. If both courses are taken, the second will count as an elective.

PHS-176 Environmental Geology Laboratory 1

Designed to be taken with PHS-175 (0/2/0/0), Coreq: PHS-175; Arts & Sciences Elective Code: A

PHS-180 Evolution of the Earth 3

Considers interdisciplinary principles, techniques and methods essential to the interpretation of the geological history of the earth. The development of plate tectonics and continental drift through geological time and the progression and evolution of life from Pre-Cambrian time to present time are also examined. (3/0/0/0), Arts & Sciences Elective Code: A

PHS-181 Evolution of the Earth Lab 1

Designed to be taken with PHS-180. (0/2/0/0), Coreq: PHS-180; Arts & Sciences Elective Code: A

PHS-924 Honors Project 1

Allows qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

PHS-928 Independent Study 1

Provides readings, papers, field or basic research projects for independent work in the geological sciences. Students study under the individual guidance of a staff member. (0/2/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

PHY: PHYSICS

PHY-120 Introductory Physics 3

Provides basic work with scientific reasoning and fundamental concepts in classical and modern physics. Lab provides opportunities for measurements and application of concepts. Recommended for students planning to take College or Classical Physics, as well as all liberal arts students desiring an introductory course. (2/2/0/0), Prereq: MAT-062; Arts & Sciences Elective Code: A

PHY-162 College Physics I 4

Emphasizes introductory physics concepts and methods of scientific reasoning. The first semester of this sequence treats the structure and properties of matter, descriptions of motion, Newton's Laws, conservation laws, rotational motion, fluid statics, fluid dynamics and thermodynamics. Designed primarily for students interested in Pre-Medical, Pre-Dental, Pre-Pharmacy, Pre-Forestry or Pre-Teacher education programs and those who seek to meet science requirements in their professional programs. (3/2/0/0), Prereq: MAT-102; Arts & Sciences Elective Code: A

PHY-172 College Physics II 4

Continues College Physics I and includes static and current electricity, electromagnetism, wave motion, optics, atomic and nuclear physics. Applications to the life sciences are integrated with material throughout the semester. (3/2/0/0), Prereq: PHY-162; Arts & Sciences Elective Code: A

PHY-180 Applied Physics I 2

Studies Mollier diagrams, psychrometric charts, thermodynamics and gas laws. Demonstrates how these properties of physics apply to the refrigeration cycle, heating, cooling, humidification and dehumidification. (1/2/0/0), Prereq: MAT-109; Arts & Sciences Elective Code: B

PHY-182 Applied Physics II 3

Studies mechanical power transmission, energy convertors, fluid power and precision measuring instruments, measurement conversion, air and fluid flow characteristics. (2/2/0/0), Prereq: PHY-180; Arts & Sciences Elective Code: B

PHY-190 Physics I 3

Introduces students to general physics concepts and a systematic approach to problem-solving techniques for physics-based problems. Mechanical aspects of physics will receive primary emphasis and other applications will be introduced. The course provides introductory skills applications for later courses in statics and dynamics. Laboratory work is an integral part of the course. (2/2/0/0), Prereq: MAT-745; Arts & Sciences Elective Code: B

PHY-192 Physics II 3

Continues Physics I. Covers topics in fluid mechanics, heat theory and electricity. Designed to be an introductory course in these topic areas, with principal emphasis on conventional terminology and general applications. Laboratory work is an integral part of the course. (2/2/0/0), Prereq: PHY-190; Arts & Sciences Elective Code: B

PHY-212 Classical Physics I 5

Introduces physics using calculus-level mathematics. Designed for students in Engineering, Mathematics and Physics. The first semester of this sequence covers the topics of vectors, linear and rotational kinematics, statics, dynamics, and oscillatory and wave motion. (4/2/0/0), Prereq: MAT-210; Arts & Sciences Elective Code: A

PHY-222 Classical Physics II 5

Continues Classical Physics I. Includes the topics of thermodynamics, static and current electricity, electromagnetism, geometric and wave optics, and a brief introduction to modern physics. (4/2/0/0), Prereq: MAT-216, PHY-212; Arts & Sciences Elective Code: A

PHY-230 UTC Physics I 3

Studies the concepts of force, parameter, rate, resistance, energy loss and introduction to magnetism. Introduces resistive-capacitive-inertive systems. This course uses the UTC format. All topics are presented with cross-disciplinary applications: mechanical, fluid, electrical and thermal. (2/2/0/0), Arts & Sciences Elective Code: B

PHY-232 UTC Physics II 3

Continues UTC Physics I. Builds on resistive-capacitive-inertive systems including forced oscillation, waves and radiated energy. (2/2/0/0), Prereq: PHY-230; Arts & Sciences Elective Code: B

PHY-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising

professor and dean

PHY-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (0/2/0/0), Prereq: PHY-120 or PHY-162 or PHY-172; Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

PLU: PLUMBING

PLU-130 Plumbing Theory I 6
Provides instruction on the basic principles of plumbing system installations. At the conclusion of the course, the student will be able to complete a variety of plumbing-related tasks such as identify and describe safe work practices; identify and explain the materials, fittings and supports used in a plumbing installation; identify the Uniform Plumbing Code; identify the content covered in each chapter of the UPC and perform basic pipe sizing; create plan and elevation plumbing drawings and sketches; and identify and describe potable water systems, water wells and basic water treatment. (4/4/0/0), Arts & Sciences Elective Code: B

PLU-132 Plumbing Theory II 8
Provides instruction in all aspects of plumbing installations in a residential setting. Students learn to plan, design and install a plumbing drain, a waste and vent system, plumbing fixtures, water distribution systems, natural gas supply piping, venting, and chimney systems in accordance with the Uniform Plumbing Code, state and local amendments. (6/4/0/0), Prereq: PLU-130; Arts & Sciences Elective Code: B

PLU-140 Plumbing Practices I 4
Provides instruction on common pipe joining techniques and common pipe fitting procedures for pressure and drainage weight pipe and fittings. At the completion of the course, the student will be able to identify the common materials used in plumbing and gas piping systems, identify and perform common joining methods used on piping materials, and maintain a job log of time spent and materials used for each of the piping assignments. (0/8/0/0), Arts & Sciences Elective Code: B

PLU-142 Plumbing Practices II 4
Provides instruction for installation of plumbing systems. At the completion of the course, the student will be able to plan, design and install a plumbing drain, a waste and vent system, plumbing fixtures, water distribution systems, natural gas supply piping, venting, and chimney systems in accordance with the Uniform Plumbing Code, state and local amendments. (1/6/0/0), Prereq: PLU-140; Arts & Sciences Elective Code: B

PLU-150 Advanced Plan and Print Reading 2

Provides instruction on reading, interpreting and understanding standard construction drawings. From a given construction drawing, students develop piping sketches including plan, elevation and isometric views, size drain waste and vent piping by use of the Uniform Plumbing Code and the City of Cedar Rapids amendments, prepare a materials list from a given piping sketch and download and print a variety of manufacturers' product information sheets for fixtures, faucets, fittings and other related items. (1/2/0/0), Prereq: HCR-710; Arts & Sciences Elective Code: B

PNN: PRACTICAL NURSING

PNN-104 Metrology 1
Utilizes the ratio and proportion method for conversion between measurement systems and dosage calculation. Includes calculation of intake and output and learning the abbreviations related to administration of medications. (1/0/0/0), Coreq: PNN-138, PNN-139; Arts & Sciences Elective Code: B

PNN-138 Introduction to Nursing 2
Provides the basic concepts related to nursing, such as adaptation, basic nutrition, communication, nursing roles, teaching/learning and health. Students learn the nursing process and issues related to nursing practice on an introductory level. (2/0/0/0), Prereq: BCA-189, BIO-168, BIO-173, HSC-107, HSC-135, HSC-210, HSC-211; Coreq: PNN-104, PNN-139, PNN-722; Arts & Sciences Elective Code: B

PNN-139 Practical Nursing I 5
Introduces the role of provider of care for the adult client with an emphasis on chronic illnesses, including gerontological issues. The areas of pathophysiology, nutrition and pharmacology are integrated relative to the client problems. Basic nursing skills are practiced in a supervised lab setting. (4.5/1/0/0), Prereq: BCA-189, BIO-168, BIO-173, HSC-107, HSC-135, HSC-210, HSC-211; Coreq: PNN-104, PNN-138, PNN-722; Arts & Sciences Elective Code: B

PNN-533 Practical Nursing II 6
Presents concepts related to maternal/child health including pediatrics and obstetrics. Medical/surgical and mental health illnesses throughout the lifespan are studied. Principles of growth and development are applied. The areas of pathophysiology, pharmacology and nutrition are integrated relative to the client problems. Basic nursing skills are practiced in a supervised laboratory setting. (4.5/3/0/0), Prereq: PNN-104, PNN-138, PNN-139, PNN-722; Coreq: PNN-732; Arts & Sciences Elective Code: B

PNN-722 Fundamentals of Nursing Clinical 2
Focuses on the application of knowledge, psychomotor and affective skills to perform the role of provider of care. Emphasis is on making basic observations and performing nursing cares associated with activities of daily living in long-

term care and medical settings. Concepts related to nutrition, pharmacology and pathophysiology are applied. Taken concurrently with Practical Nursing I, Intro to Nursing, and Metrology. (0/0/6/0), Prereq: BCA-189, BIO-168, BIO-173, HSC-107, HSC-135, HSC-210, HSC-211; Coreq: PNN-138; Arts & Sciences Elective Code: B

PNN-732 Practical Nursing Clinical II 3
Focuses on the application of knowledge, psychomotor and affective skills to perform the role of provider of care through observation and implementation of nursing care in various settings. Concepts related to nutrition, pharmacology and pathophysiology are applied. (0/0/9/0), Prereq: PNN-104, PNN-138, PNN-139, PNN-722; Coreq: PNN-533; Arts & Sciences Elective Code: B

PNN-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PNN-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

POL: POLITICAL SCIENCE

POL-111 American National Government 3
Studies American policy based on a close examination of the processes of decision making. Emphasis is placed on voting behavior and citizen interaction within the system. (3/0/0/0), Arts & Sciences Elective Code: A

POL-121 International Relations 3
Analyzes governments in the more developed countries (MDCs) and in the less developed countries (LDCs) and the interaction of these governments in their political, economic and security dimensions. Also analyzes the sources of policy and their theoretical foundations. Problems are examined through current world concerns. (3/0/0/0), Arts & Sciences Elective Code: A

POL-125 Comparative Government and Politics 3
Studies the systems of government of several countries taking into consideration citizen participation and policy-making processes. Includes basic theories, methods and concepts

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of comparative study. Examines similarities and differences of political structures including political parties and executive and legislative institutions. (3/0/0/0), Arts & Sciences Elective Code: A

POL-130 Perspectives on Terrorism 1
Introduces the student to the concept of terrorism, methods of preparing for a terrorist attack, and the psychological impact of terrorism. Students examine the historical origins of terrorism, ways to prepare and respond, and the psychological impact of terrorism on society. (1/0/0/0), Arts & Sciences Elective Code: A

POL-150 Introduction to U. S. Foreign Policy 3
Studies institutions and processes which structure and shape United States foreign policymaking. Surveys historical, military, diplomatic and economic interactions with countries and international governmental and non-governmental organizations. Examines issues such as terrorism, trade, human rights, espionage, intelligence and homeland security. (3/0/0/0), Arts & Sciences Elective Code: A

POL-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of an honors faculty member. Requires completion of an Honors Project Learning Contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

POL-928 Independent Study 1
Provides readings, papers and basic research on other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

PRL: PARALEGAL

PRL-101 Paralegal Studies Orientation 3
Provides an overview of the American legal system and the practice of law. Introduces students to legal processes; court systems; courses of law; basic legal research methods; and to the nature, ethics and regulation of legal professions. Introduces the substantive law and skill areas students will encounter in subsequent legal assistant courses. Examines the relationship between different kinds of legal systems and between social science and law. (3/0/0/0), Prereq: ENG-101; Arts & Sciences Elective Code: A

PRL-105 Legal Ethics 1
Studies the canons of professional ethics and disciplinary rules applicable to lawyers and legal assistants, together with applicable disciplinary proceedings and court decisions. (1/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-110 Fundamentals of Legal Research and Writing 2
Provides instruction in law library and computer

technology resources needed for law applicable to solving legal problems, including research strategies, analysis and application of law, and communicating research results orally and in written legal memoranda. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-111 Advanced Legal Research and Writing 2
Provides instruction in using computer-based legal research methods to address complex legal research problems and in utilizing research results in appellate briefs and other advocacy legal documents. (2/0/0/0), Prereq: PRL-101, PRL-110; Arts & Sciences Elective Code: A

PRL-120 Investigation for Paralegals 2
Provides an overview of the fact-gathering process for paralegals, including principles and techniques of investigation, sources of public and private information, methods for preserving information, and analyzing the probativeness, sufficiency, and admissibility of facts for trial. (2/0/0/0), Prereq: PRL-101, PRL-110; Arts & Sciences Elective Code: A

PRL-130 Torts 2
Provides instruction on the principles of tort law, emphasizing skills in reading and interpreting primary and secondary sources of law. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-136 Bankruptcy Law 2
Teaches the Bankruptcy Act, applicable rules and selected case law and their application to the preparation of a bankruptcy filing. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-140 Business Organization Law 2
Explores and explains the legal characteristics of proprietorships, corporations, partnerships and other business vehicles, and teaches drafting of articles of incorporation, by-laws, partnership agreements and related business documents. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-145 Secured Transactions 2
Covers secured transactions in the UCC and introduces negotiable instruments. Presents the Article rules and enables students to understand situations in which security interests are used and enforced. Students use the Secretary of State Web site. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-150 Real Estate Law 2
Studies the law of real property and surveys the more common types of real estate transactions and conveyances such as deeds, contracts, leases, deeds of trust and studies recording systems and public documents. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-160 Family Law 2
Provides a study of laws of marriage, divorce, child custody and support, separations, annulments, paternity, adoptions and mental

health commitment procedures, and tax aspects of divorce and separation. The emphasis of the course is on the procedural and practical aspects of the laws. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-165 Estate Planning/Administration 2
Provides a working knowledge of lifetime and testamentary estate planning enabling the student to draft trusts and wills, and to compute tax consequences. Provides understanding of the process of settling estates both within and outside probate court. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-170 Administrative Law 2
Provides a working knowledge of administrative law and procedure, and the practical skills necessary for advocacy before an administrative agency. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-175 Contracts 2
Provides instruction in the principles of contract law, emphasizing skills in reading and interpreting primary and secondary sources and practicing preparation of contracts. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-176 Civil Litigation 3
Teaches the rules, processes and paralegal skills for preparing cases for civil trials, including the preparation of complaints, discovery and motions. (3/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-180 Employment Law Topics 2
Surveys selected legal aspects of the employer-employee relationship, such as federal labor laws, civil rights laws, Americans With Disabilities Act, privacy and harassment laws, and human resource management issues. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-181 Workers' Compensation 2
Teaches the law and procedures, and the paralegal's role involved in representation of claimants for workers' compensation benefits. (2/0/0/0), Arts & Sciences Elective Code: A

PRL-185 Immigration Law 2
Introduces basic constitutional provisions and United States Supreme Court cases that led to current immigration policy. Emphasizes immigrant and non-immigrant visas, student and work visas, and long-term nonresidents and individuals on the path to naturalization. Explores common immigration law situations and problems. (2/0/0/0), Arts & Sciences Elective Code: A

PRL-195 Environmental Law 2
Surveys state and federal law related to protection of the environment. Covers knowledge, skills

and duties likely to be required of paralegals practicing in this area. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PRL-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PRL-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A

PRL-932 Internship 3
Provides an opportunity to use and refine paralegal skills in a work setting with the guidance of legal professionals. Students attend monthly seminars throughout the internship semester to share and gain perspective on their experiences. (0/0/9/0), Arts & Sciences Elective Code: A; Comments: Completion of all law courses; permission of instructor.

PRL-945 Selected Topics 2
Teaches principles, practice and applications in an area of law of current interest to paralegals. (2/0/0/0), Prereq: PRL-101; Arts & Sciences Elective Code: A

PSY: PSYCHOLOGY

PSY-111 Introduction to Psychology 3
Introduces the scientific study of mental processes and behavior with emphasis on the nervous system, learning and memory, cognition, sensation and perception, motivation and emotion, personality, intelligence, stress, psychological disorders and therapy, and social influence. Stresses roles of both theory and empirical evidence in describing, explaining and predicting behavior. Encourages critical thinking about research methods and ethics. (3/0/0/0), Arts & Sciences Elective Code: A

PSY-121 Developmental Psychology 3
Introduces physical, cognitive and psychosocial development from a lifespan perspective covering conception until death. Provides an introduction to major theories and classic and contemporary research, and examines normative development as impacted by genes, maturation, experience, cohort, gender, race, social class and culture. Discusses topics including developmental research methods; genetics; prenatal development; infancy; childhood; adolescence; early, middle and late adulthood; and death and bereavement. (3/0/0/0), Prereq: PSY-111; Arts & Sciences Elective Code: A

PSY-241 Abnormal Psychology 3

Describes emotional, cognitive and behavioral disorders using the current edition of the DSM for classification and diagnosis of disorders. Explores assessment, causes and treatments of disorders from a biopsychosocial perspective. Reviews historical and current theoretical perspectives of abnormality, research methods, and legal and ethical issues. (3/0/0/0), Prereq: PSY-111; Arts & Sciences Elective Code: A

PSY-251 Social Psychology 3
Explores how an individual's thinking, feelings and behavior are affected by others. Covers research methods, ethics, and classic as well as contemporary research on topics including social beliefs and judgments, self and person perception, attitude formation and change, prejudice, aggression and conflict, helping and prosocial behavior, interpersonal attraction, gender-related behavior, conformity and deviation, persuasion, and group influence. (3/0/0/0), Prereq: PSY-111; Arts & Sciences Elective Code: A

PSY-261 Human Sexuality 3
Expands upon psychological, cultural, biological, legal and political aspects of human sexuality. Examines research and multiple data sources. Explores topics of media, gender and sexual orientation, sexual anatomy and response, sexual expression and variation, birth control, conception, pregnancy and childbirth, sexual dysfunction and therapy, health and illness, sexually transmitted infections and treatment, sexual coercion, pornography, and prostitution. (3/0/0/0), Arts & Sciences Elective Code: A

PSY-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

PTA: PHYSICAL THERAPIST ASSISTANT

PTA-101 Introduction to PTA 2
Blends face-to-face interaction with online learning. Provides an overview of the PT profession, the role of the PTA, the education of the PTA and the national organization, the APTA. Helps students identify individual learning styles and develop strategies for learning science. Explores various emotional reactions to disability and considers communication strategies for patients, family members and other health care workers. The patient care process is discussed in addition to the treatment of diverse patient populations. Includes concepts of self and peer assessment, and goal setting. (2/0/0/0), Arts & Sciences Elective Code: B

PTA-110 Fundamentals for PTA 3

Introduction to patient care activities for the PTA including positioning and draping, posture, and body mechanics. Perambulation activities are covered including exercise, functional activities and fitting assistive devices. Gait training and negotiation of architectural barriers are addressed. Students learn about and are exposed to the intensive care environment. (2/2/0/0), Prereq: PTA-120; Arts & Sciences Elective Code: B

PTA-120 Kinesiology 3
Provides a basic understanding of normal human body movement as related to skeletal, muscular and neurological systems. Students learn anatomical palpation, normal posture and gait. (2/2/0/0), Coreq: BIO-168; Arts & Sciences Elective Code: B

PTA-140 Functional Motor Development 3
Presents normal human development as it relates to movement and functional independence. Includes discussion of changes across the lifespan in terms of physical, social and cognitive development. Consideration given to the impact of disability on the individual and the family at each stage of development. Includes an off-campus service learning component. (3/0/0/0), Arts & Sciences Elective Code: B

PTA-150 Pathophysiology 3
Presents clinical diseases commonly treated in physical therapy. Pathology, etiology, diagnosis, signs, symptoms and prognosis are covered. Functional implications for each disease are discussed. (3/0/0/0), Prereq: BIO-168, BIO-173; Arts & Sciences Elective Code: B

PTA-160 PTA Procedures I 3
Introduces assessment skills and exercise procedures performed by the PTA. Covers theory and application of goniometry, manual muscle testing, palpation and various other assessment techniques with focus on the lower extremities. Explores basic exercise procedures as they relate to the results of the assessment procedures. Includes laboratory demonstration and practice of each skill. (2/2/0/0), Prereq: PTA-110, PTA-120; Arts & Sciences Elective Code: B

PTA-161 PTA Procedures II 3
Introduces assessment skills and exercise procedures performed by the PTA. Covers theory and application of goniometry, manual muscle testing, palpation and various other assessment techniques with focus on the upper extremities. Explores basic exercise procedures as they relate to the results of the assessment procedures. Includes laboratory demonstration and practice of each skill. (2/2/0/0), Prereq: PTA-160; Arts & Sciences Elective Code: B



Course Descriptions

<p>PTA-192 PTA Modalities I 2</p> <p>Prepares students to use therapeutic modalities for patient/client management. Covers specific modalities including superficial heat and cold, ultrasound and electrical stimulation (for pain management). Includes physiological mechanism, indications, contraindications and precautions, as well as techniques of application for each modality. (1/2/0/0), Arts & Sciences Elective Code: B</p>	<p>writing, interviewing and employment, as well as self and peer assessment as tools for career development and lifelong learning. Includes a review of rules and regulations governing PTA practice in Iowa, and licensure application and preparation process. Involves a component of independent study as well as classroom activities. (2/0/0/0), Prereq: PTA-110; Arts & Sciences Elective Code: B</p>	<p>RCP-220 Respiratory Care I 3</p> <p>Provides the theory, equipment operation and application with laboratory exercises in oxygen and other gas therapy; and aerosol drug therapy, with an introduction to respiratory pharmacology and airway clearance modalities. (2/2/0/0), Prereq: HSC-107, HSC-210, RCP-210; Arts & Sciences Elective Code: B</p>
<p>PTA-193 PTA Modalities II 3</p> <p>Continues study of modalities used for patient/client management. Covers specific modalities including electrical stimulation (for management of muscle dysfunction, edema and wounds), therapeutic massage, hydrotherapy, wound care techniques, edema management, spinal traction, diathermy, ultraviolet and laser. Includes physiological mechanism, indications, contraindications, precautions, as well as techniques of application for each modality. (2/2/0/0), Prereq: PTA-192; Arts & Sciences Elective Code: B</p>	<p>PTA-301 PTA Clinic I 2</p> <p>Initial hands-on clinical experience. Skills learned in Health Skills, Fundamentals for PTA, PTA Modalities I and Kinesiology are applied to direct patient care in selected clinical settings. (0.5/0/4.5/0), Prereq: PTA-110, PTA-161, PTA-193; Arts & Sciences Elective Code: B</p>	<p>RCP-300 Respiratory Physiology 4</p> <p>Provides the essential concepts of cardiopulmonary anatomy and physiology with an emphasis on pulmonary homeostasis. (4/0/0/0), Prereq: BIO-161; Arts & Sciences Elective Code: B</p>
<p>PTA-210 Orthopedics 3</p> <p>Provides a review of normal musculoskeletal anatomy. Each body joint is discussed as it relates to normal function, dysfunction and treatment strategies. Options for management of basic orthopedic surgeries, injuries and dysfunction are presented. (2/2/0/0), Prereq: PTA-110, PTA-120, PTA-150, PTA-193; Arts & Sciences Elective Code: B</p>	<p>PTA-302 PTA Clinic II 2</p> <p>Includes application of new concepts and skills learned in previous PTA course work while providing direct patient care in selected clinical settings. (0.5/0/4.5/0), Prereq: PTA-301; Arts & Sciences Elective Code: B</p>	<p>RCP-370 Respiratory Pathology I 2</p> <p>Provides an introduction to the study of disease with an emphasis on terminology and basic disease processes. Examines common infectious diseases, acute and chronic respiratory diseases, and cardiovascular disorders. Concentrates on etiology, pathophysiology, signs and symptoms. Provides an overview of respiratory care for the surgical patient, as well as specific management of traumatic chest injury and head trauma. (2/0/0/0), Prereq: BIO-186, RCP-300; Arts & Sciences Elective Code: B</p>
<p>PTA-230 Rehab for Medical Conditions 3</p> <p>Provides application of patient management skills to a variety of general medical conditions. Covers therapeutic exercise directed to specific impairments, as well as special considerations for a variety of diagnoses. Addresses clinical problem solving, patient progression and patient and family education. (2/2/0/0), Prereq: BIO-168, BIO-173, PTA-110, PTA-120, PTA-150; Arts & Sciences Elective Code: B</p>	<p>PTA-431 PTA Clinic III 12</p> <p>Full-time clinical experience, which includes application of all previous concepts and skills. Students develop proficiency in previously learned skills while providing direct patient care in selected clinical settings. (0/0/36/0), Prereq: PTA-302; Arts & Sciences Elective Code: B</p>	<p>RCP-380 Respiratory Pathology II 2.5</p> <p>Offers an in-depth study of pulmonary disorders relating the respiratory therapist's role in diagnosis, treatment, pharmacologic management and support; provides practice in gathering appropriate information and making prompt and correct patient care decisions. (2.5/0/0/0), Arts & Sciences Elective Code: B</p>
<p>PTA-240 Neurology 3</p> <p>Provides an overview of the human nervous system with regard to anatomy, neurodevelopment and function. Clinical neuropathologies, therapeutic analysis and program planning are discussed. Pediatric considerations as well as adult neurological problems are included. Exercise theories covered include PNF, NDT, Brunnstrom, motor learning, etc. Includes a component of classroom instruction as well as clinical experiences. (2/2/0/0), Prereq: PTA-110, PTA-120, PTA-150; Arts & Sciences Elective Code: B</p>	<p>PTA-924 Honors Project 1</p> <p>Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean</p>	<p>RCP-420 Pulmonary Function Testing 2</p> <p>Provides theory and operation of equipment in pulmonary function testing with interpretation of test results. Laboratory exercises include gathering data from bedside spirometry, measuring weaning parameters, as well as standard pulmonary function laboratory testing. (1/1/1.5/0), Prereq: RCP-220, RCP-300; Arts & Sciences Elective Code: B</p>
<p>PTA-250 PTA Career Essentials 2</p> <p>Includes basic career principles, such as levels of authority and responsibility, supervision, performance appraisals, policies and procedures, and ethical and legal guidelines. Discusses quality assurance and chart audits. Addresses reimbursement systems and their impact on health care delivery. Students learn resumé</p>	<p>PTA-928 Independent Study 1</p> <p>Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean</p>	<p>RCP-470 Cardiac Monitoring 1.5</p> <p>Surveys the theory and application of specialized diagnostic procedures, equipment and monitoring techniques in cardiac medicine. Includes ECG and monitoring leads, basic interpretation and dysrhythmia recognition, thermomodulation cardiac output and oxymetrix-mixed venous oxygen measurements, pulmonary artery catheters, hemodynamics and clinical application. (1.5/0/0/0), Prereq: BIO-161, RCP-300; Arts & Sciences Elective Code: B</p>
RCP: RESPIRATORY THERAPY		
<p>RCP-120 Cardiopulmonary Assessment 1</p> <p>Provides the student with the necessary competencies to conduct a general head-to-toe integumentary assessment as well as a more detailed cardiovascular and chest/pulmonary assessment, enabling the student to identify and document any abnormalities. (0.5/1/0/0), Coreq: BIO-161; Arts & Sciences Elective Code: B</p>	<p>RCP-210 Introduction to Respiratory Care 2.5</p> <p>Provides the theory, equipment operation and application with laboratory exercises in airway management techniques, humidity therapy and bland aerosol therapy. (1.5/2/0/0), Coreq: BIO-161, MAT-732; Arts & Sciences Elective Code: B</p>	

RCP-480 Advanced Cardiac Care 2.5
Provides theory and laboratory practice in managing specific life-threatening cardiac dysrhythmias resulting from myocardial infarction. Includes review of basic life support, use of mechanical aids to establish an airway and maintain ventilation, ECG monitoring and recognition of life-threatening dysrhythmias, cardiac defibrillation, establishing an intravenous drug access, and initiating appropriate cardiac drug therapy. (2/1/0/0), Prereq: RCP-735; Arts & Sciences Elective Code: B

RCP-510 Respiratory Care II 6
Explores the theory, equipment operation and application with laboratory exercises in adult and pediatric/neonatal mechanical ventilation, IPPB and arterial blood gas analysis. Examines the effect of mechanical ventilation on acid base balance. Laboratory emphasis on the operation and application of adult and pediatric/neonatal ventilators. (4/4/0/0), Prereq: CHM-110, RCP-220; Arts & Sciences Elective Code: B

RCP-610 Perinatology 2.5
Explores fetal growth and development, assessment of the high-risk newborn and respiratory care of the perinatal/pediatric patient. Reviews specific medical/surgical pathology in the newborn and pediatric patient. (2/1/0/0), Arts & Sciences Elective Code: B

RCP-730 Respiratory Care Clinic I 2.5
Provides students with clinical practice in order to demonstrate proficiency in physical assessment, oxygen therapy, airway care and IPPB skills. Students observe and practice mechanical ventilation and arterial blood gas analysis skills. (0/1/6/0), Prereq: RCP-210; Coreq: RCP-220; Arts & Sciences Elective Code: B

RCP-735 Respiratory Care Clinic II 6.5
Provides students an opportunity to maintain proficiency in RC Clinic I skills and demonstrate proficiency in ventilation and arterial blood gas analysis. Provides an opportunity to practice pediatric respiratory care, hemodynamic monitoring and demonstrate proficiency in pulmonary function testing. Students observe diagnostic techniques in ECG, cardiac catheterization lab and bronchoscopy lab. (0/1/18/0), Prereq: RCP-510, RCP-730; Arts & Sciences Elective Code: B

RCP-740 Respiratory Care Clinic III 6.5
Provides students an opportunity to maintain proficiency in RC Clinics I and II skills, demonstrate proficiency in pediatric/perinatal respiratory care, practice clinical education techniques and observe management skills. (0/1/18/0), Prereq: RCP-735; Arts & Sciences Elective Code: B

RCP-850 Respiratory Care III 2.5
Surveys the theory and application of specialized diagnostic procedures, equipment and monitoring techniques in pulmonary medicine

and critical care. Includes bronchoscopy, oximetry, capnography and transcutaneous monitoring. Explores the elements of pulmonary rehabilitation with laboratory exercises in breathing retraining. Examines the theory and operation of pleural drainage systems. (2/1/0/0), Prereq: RCP-510; Arts & Sciences Elective Code: B

RCP-890 Respiratory Care Applications 2
Culminates the learning activities of the previous five semesters of study in respiratory care. Integrates the theory and application of respiratory care to focus on case management, clinical problem solving and clinical simulation. Case discussions will selectively cover the spectrum of cardiopulmonary disorders for both pediatric and adult patients. (1/2/0/0), Prereq: RCP-380, RCP-610; Arts & Sciences Elective Code: B

RCP-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

RCP-928 Independent Study 1
Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

RDG: READING

RDG-130 Effective Reading Strategies 3
Provides instruction in study skills and reading improvement for college readers. Develops flexibility in students' reading rates and strategies for improving comprehension of standard college texts. Provides practice with library, test taking, time management and vocabulary skills. Recommended to be taken in conjunction with another college-level course. Also recommend: a COMPASS score 71 or above or ACT score of 16 or above. (3/0/0/0), Arts & Sciences Elective Code: A

RDG-200 College Reading 3
Introduces college-level reading skills, including identifying and analyzing factual statements, topics, and supporting details; recognizing, using, developing and outlining relationships; and learning critical reading strategies. (3/0/0/0), Arts & Sciences Elective Code: D

RDG-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than

once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

RDG-928 Independent Study 1-2
Allows the student to pursue a special concentration of study under the guidance of a faculty member. Requires an independent study contract. (0/2-4/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

REL: RELIGION

REL-101 Survey of World Religions 3
Introduces the study of religions and religious phenomena through an examination of several historical and contemporary religions from around the world. Includes a study of some of the following: American Indian traditions, Hinduism, Buddhism, Judaism, Christianity, Islam, Shintoism, ancient and contemporary feminist spirituality, gnosticism, shamanism, Confucianism and Taoism. (3/0/0/0), Arts & Sciences Elective Code: A

REL-120 Judaism, Christianity and Islam 3
Introduces the beliefs, values, and practices of Judaism, Christianity and Islam. Both historical and contemporary phenomena are used to develop an understanding of the diversity and complexity of the religious dimension of human life. (3/0/0/0), Arts & Sciences Elective Code: A

REL-125 Introduction to Islam 3
Introduces the beliefs, values and practices of Islam. Both historical and contemporary phenomena are used to develop an understanding of the diversity and complexity of the Muslim religion. Attention is also given to critical issues within Islam in the modern world. (3/0/0/0), Arts & Sciences Elective Code: A

REL-130 Introduction to Religions of the East 3
Introduces some of the religious traditions and systems of belief found in the East. Both historical and contemporary phenomena are used to develop an understanding of the diversity and complexity of the religious dimension of human life. Various forms of some of the following religions are included: Buddhism, Shintoism, Hinduism, Taoism, Jainism and Confucianism. (3/0/0/0), Arts & Sciences Elective Code: A

REL-140 Religion in the United States 3
A historical survey of religion in the United States from the colonial period to the present,

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with emphasis upon the increasing diversity of American religions. Religious developments will be related to the broader cultural aspects of the American experience. (3/0/0/0), Arts & Sciences Elective Code: A

REL-160 Religions of China 3
Studies some of the main religious systems and traditions of China, both pre-modern and modern. The general rubric used will divide Chinese religious systems into four main categories: Confucian, Daoist, Buddhist and Popular, although some attention will be given to studying the reality that Chinese religion as practiced tends to cross over such artificial boundaries. (3/0/0/0), Arts & Sciences Elective Code: A

REL-165 Japanese Religions 3
Covers some of the main religious systems and traditions of Japan, both pre-modern and modern. The general rubric used will divide Japanese religious systems into five main categories: Shinto, Daoist, Buddhist, Confucian and New/Popular, although attention will be given to studying the reality that Japanese religion as practiced tends to cross over such artificial boundaries. (3/0/0/0), Arts & Sciences Elective Code: A

REL-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

REL-928 Independent Study 1
Provides readings, papers, study and research under the guidance of a faculty member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

SCI: SCIENCE

SCI-050 Science Principles 3
Introduces basic science theories, facts, and principles. Designed to form a foundation of scientific knowledge for any future college science courses. Designed for students who do not have a strong science background or for students who have been out of school for several years. Topics include scientific method, the metric system, basic equations and formulas, energy and motion, heat and temperature, cellular structure, basic geology, and chemical reactions. (3/0/0/0), Arts & Sciences Elective Code: B

SCI-120 Forensic Science 3
Explores forensic science and its impact on science, society and the criminal justice system.

Focuses on basic concepts in selected areas of chemistry, biochemistry, cell and molecular biology, and anatomy and physiology. This course is designed to educate liberal arts students about basic sciences, and the realities and limitations of scientific methods when applied specifically to criminal investigation. (3/0/0/0), Arts & Sciences Elective Code: A

SCI-122 Forensic Science Laboratory 1
Focuses on laboratory procedures used in a wide variety of forensic disciplines. Includes the scientific method, identification of body fluids, blood spatter analysis and forensic entomology. Explores the theory of forensic methods along with its limitations. (0/2/0/0), Coreq: SCI-120; Arts & Sciences Elective Code: A

SDV: STUDENT DEVELOPMENT

SDV-022 Study Strategies 2
Provides instruction and practice in time scheduling and management, effective use of textbooks, effective study skills, note taking, test-taking strategies and listening skills. Must be enrolled in the College Prep Block. (2/0/0/0), Arts & Sciences Elective Code: D

SDV-027 College Preparation: Study Skills 2
Introduces college-level study skills. Focuses on practical application of study skills necessary for college success including organization skills, effective goal setting, determining the main idea, and developing effective and efficient study skills. (2/0/0/0), Arts & Sciences Elective Code: B

SDV-052 Supported Education 1-3
Provides academic support, accommodations and strategies students need to successfully complete the Kirkwood course of study. Develops an individualized education plan and accommodation plans designed to develop effective study skills and self-advocacy skills. Monitors students' progress in Kirkwood courses. Format is primarily individualized instruction. (0/2-6/0/0), Arts & Sciences Elective Code: D

SDV-057 Teacher Proficiency Test Preparation 1
Provide individualized instruction to prepare student to pass the Teacher Preparation Proficiency test. (0/2/0/0), Arts & Sciences Elective Code: B

SDV-077 Supported Education – VITAL 3
Provides academic support, accommodations and strategies VITAL students need to successfully complete the Kirkwood course of study. Develops an individualized education plan and accommodations plan designed to develop effective study skills and self-advocacy skills. Monitors students' progress in Kirkwood courses. Format is primarily individualized instruction. (0/6/0/0), Arts & Sciences Elective Code: D;

Comments: Concurrent enrollment in VITAL.

SDV-080 Supported Education: Transition 1
Provides instruction and hands-on skill development to students enrolled in the Prairie Wood Transition Program. Consists of academic classroom instruction, life skills, accommodations and strategies for success in the Transition Program, including campus and community experiences. (0/2/0/0), Arts & Sciences Elective Code: D

SDV-084 Academic Prep I 1
Provides individualized computer-assisted instruction in math, reading, writing and critical-thinking skills to academically prepare students for future course work in their major. (0/2/0/0), Arts & Sciences Elective Code: B

SDV-086 Academic Prep II 1
Provides individualized computer-assisted instruction in math, reading, writing and critical-thinking skills to academically prepare students for future course work in their major. (0/2/0/0), Arts & Sciences Elective Code: B

SDV-093 College Survival Skills 1
Transitions first-year, first-semester Student Support Service students into the postsecondary environment via an Internet forum. Students learn about available support services, appropriate social and study skills, and how to use the Internet. (0/2/0/0), Arts & Sciences Elective Code: B

SDV-096 College Prep Writing II 3
Provides students with basic skill writing instruction in a traditional class setting. This second-semester College Prep block writing course continues the basic writing instruction provided in the first semester. (3/0/0/0), Arts & Sciences Elective Code: B

SDV-098 College Prep Math 3
Provides students with basic math skills and instruction in a traditional class setting. This first-semester College Prep block math course provides basic math skills in the areas of fractions, decimals, percent, operation and whole number operations. (3/0/0/0), Arts & Sciences Elective Code: B

SDV-099 College Prep Math II 3
Provides students with math skills and instruction in a traditional class setting. This second-semester College Prep block math course provides instruction in the area of order of operation, formulas, equations, ratio and proportion. (3/0/0/0), Arts & Sciences Elective Code: B

SDV-101 How To Be Successful In College 3
Provides classroom and group instruction on skills needed to be a successful college student. The course includes academic skill building and

covers topics such as student responsibility, how to read a syllabus, policies and procedures of the college, and effective goal setting to achieve student success. (3/0/0/0), Arts & Sciences Elective Code: B

SDV-102 How College Works 1
Explores students' individual strengths, and life and vocational goals, as they identify a college program or major. Emphasizes using self-assessments to identify appropriate career areas, understanding the differences between high school and college expectations, taking and using placement tests for college admission, and managing personal finances to afford a college education. (1/0/0/0), Arts & Sciences Elective Code: A

SDV-109 College 101 3
Directs students' attention to the college academic culture and connects them to resources that will aid in their success. The course is designed to facilitate each student's development of academic success skills. Activities include study and classroom performance strategies, personal development, academic and career planning, and participation in the college culture. (3/0/0/0), Arts & Sciences Elective Code: A

SDV-117 Program Planning Course 1
Introduces the student to the college's Applied Science and Technology departments and the procedures for further planning the course of studies needed in the Career Studies program. The student develops a portfolio identifying the programs of study to achieve personal educational and career goals. (1/0/0/0), Arts & Sciences Elective Code: B

SDV-119 Information Literacy 1
Introduces students to the library research process. Students will learn to systematically and efficiently locate, evaluate and use information through hands-on practice. (1/0/0/0), Arts & Sciences Elective Code: A

SDV-121 College Prep Seminar 3
Provides continued instruction on time scheduling and management, organizational skills and effective college-level study skills. Focuses on career development, career choices and academic planning, as well as the use of assistive technology to reach goals. (3/0/0/0), Prereq: BCA-080, ENG-013, MAT-700, RDG-200, SDV-027; Arts & Sciences Elective Code: U

SDV-135 Job Seeking Skills 1
Assists students who will be seeking an internship, or part-time or full-time employment. The areas that will be covered include how to research the job market and companies, writing resumes and cover letters, improving job interviewing techniques, and how to utilize Kirkwood's job search assistance services.

(1/0/0/0), Arts & Sciences Elective Code: B

SDV-160 Career Decision Making 2
Provides an understanding of the career development process, and assists students in making satisfactory career choices. Includes self-assessment, career information research, decision making and job search strategies. (2/0/0/0), Arts & Sciences Elective Code: A

SDV-175 Tools for Life Seminar 3
Further the understanding of the interrelationships among individuals, the college, the family, work and society. Develops leadership, study habits, communication skills and decision-making abilities, especially in education and career areas. Students consider learning as a process. (3/0/0/0), Arts & Sciences Elective Code: A

SDV-178 Stress Management 1
Studies causes and symptoms of stress (positive and negative), stress management, stress reduction, self-talk and self-esteem. (0.5/1/0/0), Arts & Sciences Elective Code: A

SDV-800 Experiential Learning Assessment 1
Assists students in preparing the necessary documentation for requesting college credit for previous work and life experience relevant to each student's program of study. This course should only be utilized when such experiences may not be assessed through CLEP, departmental examinations or other evaluation processes. Grading is on a pass/fail basis. (1/0/0/0), Arts & Sciences Elective Code: B

SDV-805 Noncollegiate Sponsored Instruction 0.5
Provides college credit for noncredit educational experiences. A maximum of 21 credit hours may be awarded for these educational experiences. (Applies only to Associate of Applied Science degree programs.) (0.5/0/0/0), Arts & Sciences Elective Code: B

SDV-924 Honors Project 1
Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

SDV-928 Independent Study 1
Broadens students' knowledge of personal skills, talents, interests and strengths. Focuses on researching career information and individually exploring a variety of career options, with assistance from the instructor. Students develop action plans for the future. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor

SOC-101 Social Science Concepts 3
Provides an overview of the major concepts from the areas of psychology, sociology, human growth and development, composition and speech communication. (3/0/0/0), Arts & Sciences Elective Code: B; Comments: Basic background in disciplines as stated in description

SOC-110 Introduction to Sociology 3
Surveys the basic principles, concepts, research strategies and empirical findings representative of the field today. The course examines the range of sociological thought, identifies areas of specialization within the discipline and establishes a basis for further study in the field. (3/0/0/0), Arts & Sciences Elective Code: A

SOC-115 Social Problems 3
Examines social problems as consequences of given types of social organization. Students examine research and theory to build an understanding of the definition, existence and persistence of social problems, as well as collective efforts to resolve those problems. (3/0/0/0), Arts & Sciences Elective Code: A

SOC-120 Marriage and Family 3
Explores contemporary family institutions by studying the family as an ideological, demographic, historic, economic and legal entity. The marital life cycle is documented through current research. Marital dissolution and remarriage are also examined. The course emphasizes the continuities and discontinuities in the family experience of individuals and the society as a whole. (3/0/0/0), Arts & Sciences Elective Code: A

SOC-132 Sociology of Loss, Grieving and Growth 3
Explores loss as a social construction influenced by the structure and organization of society. Examines loss as a part of life including loss of community, a caregiver, a relationship, a job, and loss through divorce, illness and death. Studies processes involved in grieving and growth. Discusses historical and cross-cultural definitions and ethical issues. References societal resources that may be accessed for growth. (3/0/0/0), Arts & Sciences Elective Code: A

SOC-135 Death and Dying 3
Examines selected topics dealing with death and dying including health care, religious, social, legal and funeral practices. (3/0/0/0), Arts & Sciences Elective Code: A

SOC-200 Minority Group Relations 3
Examines majority-minority group relations utilizing sociological theory and research. Addresses diverse populations with special attention placed on race, ethnicity, gender and other disadvantaged categories in American society. Students will apply basic concepts central

SOC: SOCIOLOGY

Course Descriptions

to inter-group relations and their implications. Students will consider the consequences of inequality. (3/0/0/0), Arts & Sciences Elective Code: A

SOC-265 Introduction to Lesbian, Gay, Bisexual & Transgender Studies 3

Introduces students to Lesbian, Gay, Bisexual and Transgender (LGBT) studies. Explores the impact of social, cultural, historical and political factors on LGBT individuals and communities. Studies the social construction of LGBT persons and cultures across time and place, theoretical debates regarding sexual orientation, identity formation, LGBT people of color, gender roles and gender identity, homophobia, and HIV/AIDS. Includes contemporary LGBT issues in families, education, religion, media and the law. (3/0/0/0), Arts & Sciences Elective Code: A

SOC-270 Social and Behavioral Research Methods 3

Develops skills for evaluating empirical and public literature dealing with the scientific study of behavior; experimental and nonexperimental methods of investigation; principles of research design and control; philosophy of scientific social science; planning, conducting and reporting research. (3/0/0/0), Prereq: PSY-111 or SOC-110, MAT-157; Arts & Sciences Elective Code: A

SOC-284 Sociology of the Environment 3

Explores the application of the sociological perspective to local, national and global environmental issues, with a particular focus on sustainability. Studies theories and methodologies that guide environmental research and ethical issues. Examines the way complex social structures and processes define, create and interact with the natural environment. Includes research on land use, population, waste disposal, public health, environmental justice, the environmental movement and public policy. Provides students with an opportunity to learn and apply grant writing skills. (3/0/0/0), Prereq: SOC-110; Arts & Sciences Elective Code: A

SOC-880 Service Learning Experience 1

Students participate in a project or ongoing volunteerism in the college or community. The project or experience must be of benefit to the college or community and includes planning, participation and reflection components. Participation in a Service Learning Experience develops the student's appreciation and commitment to responsible leadership. (1/0/0/0), Arts & Sciences Elective Code: B

SOC-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires that student meet honors eligibility criteria. Requires completion for an honors project contract. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

SOC-928 Independent Study 1
Provides readings, papers, basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A

SPC: SPEECH

SPC-101 Fundamentals of Oral Communication 3

Studies basic communication theory and practice including communication process, interpersonal relationships, small group interaction and public speaking. (3/0/0/0), Arts & Sciences Elective Code: A

SPC-112 Public Speaking 3

Studies the fundamentals of public speaking, emphasizing the process of speech preparation and delivery. (3/0/0/0), Arts & Sciences Elective Code: A

SPC-132 Group Communication 3

Examines the theory and techniques used in discussion and group processes. Develops leadership and group skills through frequent practical application in varying group sizes and opportunities. (3/0/0/0), Arts & Sciences Elective Code: A

SPC-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of an honors faculty member. Requires completion of an honors project learning contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

SPC-928 Independent Study 1-3

Provides readings and research opportunities under the guidance of a faculty member. (1-3/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor

SUR: SURGICAL TECHNOLOGY

SUR-126 Surgical Technology I 6.5

Provides an introduction to the knowledge and skills required for Surgical Technologists. (4.5/4/0/0), Arts & Sciences Elective Code: B

SUR-225 Surgical Technology II 4

Provides basic case preparation and surgical procedures necessary to begin operating room experience. (3/2/0/0), Prereq: BIO-161, SUR-126; Arts & Sciences Elective Code: B

SUR-340 Surgical Specialties 4

Provides information on each of the surgical specialties that may be experienced in the operating room. (4/0/0/0), Coreq: SUR-225, SUR-

520; Arts & Sciences Elective Code: B

SUR-421 Surgical Technology Pharmacology 1

Provides information needed to calculate and handle drugs in the operating room. Provides an overview of the administration and general practice of anesthesia in surgery. (1/0/0/0), Coreq: SUR-340; Arts & Sciences Elective Code: B

SUR-520 Surgical Technology Practicum I 2

Provides hands-on, first-level clinical experience in the operating room. (0/0/6/0), Prereq: HSC-210, HSC-211, SUR-126; Coreq: SUR-225; Arts & Sciences Elective Code: B

SUR-523 Surgical Technology Practicum II 11

Provides an extensive hands-on clinical experience in all entry-level skills for Surgical Technologists. (0/0/33/0), Prereq: SUR-520; Coreq: SUR-340; Arts & Sciences Elective Code: B

SUR-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

SUR-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

WAT: WATER ENVIRONMENTAL TECHNOLOGY

WAT-210 Wastewater Treatment: Industrial 4

Describes common methods and systems used to treat wastes generated by industrial processes. Learning activities include a review of applicable federal and state regulations and pretreatment requirements. (4/0/0/0), Prereq: WAT-307; Arts & Sciences Elective Code: B

WAT-300 Water Analysis 3

Introduces basic laboratory safety and gravimetric, spectrophotometric electrochemical, titrimetric and microbiological methods. Students learn the procedures for regulatory sampling and safety, and specific analytical procedures for total residue, fluoride, pH, ammonia, acidity, alkalinity, calcium, chloride, hardness and coliform analysis. Along with reading assignments from the text, the course is enhanced with up-to-date photographs, interactive exercises and online links. (3/0/0/0), Arts & Sciences Elective Code: B

<p>WAT-301 Basic Mechanical Maintenance and Pumps 3</p> <p>Covers maintenance and repair procedures for pumps typically found in water/wastewater treatment facilities. Students learn basic concepts of hydraulics, pump curves and energy consumption. General safety concerns are also emphasized. (3/0/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-304 Water Treatment I 4</p> <p>Explores the rudiments of water treatment. Students learn regulatory monitoring, iron manganese removal, filtration, coagulation, flocculation, fluoridation and disinfection. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises and online links. (4/0/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-305 Water Distribution Systems 4</p> <p>Provides a working knowledge of potable water distribution systems. Students learn about water storage facilities, operation and maintenance of water mains, water quality issues, disinfection and safety. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises and online links. (4/0/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-306 Wastewater Collection Systems 4</p> <p>Provides a working knowledge of wastewater collection systems. Students learn wastewater collection systems safety procedures, sewer inspection and testing, pipeline and maintenance, underground repair, lift stations, equipment maintenance and sewer rehabilitation. Along with reading assignments, the course is enhanced with up-to-date photographs, audio, interactive exercises and links. (4/0/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-307 Wastewater Treatment I 4</p> <p>Explores the rudiments of wastewater treatment. Students learn water pollution control, preliminary and primary treatment, fixed film processes and suspended growth systems. Along with reading assignments from the text, the course is enhanced with up-to-date photographs, audio, interactive exercises and online links. (4/0/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-308 Wastewater Analysis 3</p> <p>Using the Internet, students obtain the skills and knowledge to properly monitor the treatment process to conform to compliance regulations. Topics include BOD, COD, ammonia, grease and oil, chlorine and solids analysis. The academic</p>	<p>portion of the course, self-study exercises and quizzes are all done over the Internet. The course includes hands-on labs at Kirkwood or proficiencies that an operator can complete on the job. Students are able to enroll at any time, set their own schedule for online studies and interact with the instructor outside of the classroom. (2/2/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-311 Wastewater Treatment II 4</p> <p>Describes wastewater treatment methods and concepts that are found in more advanced wastewater treatment facilities such as activated sludge, anaerobic digestion, effluent disposal and reclamation, and nitrogen and phosphorous removal methods. (4/0/0/0), Prereq: WAT-307; Arts & Sciences Elective Code: B</p> <p>WAT-312 Water Treatment II 4</p> <p>Describes treatment methods and concepts that are found at advanced water treatment facilities such as softening, demineralization, trihalo methanes, taste and odor control, corrosion control and disposal of process wastes. (4/0/0/0), Prereq: WAT-304; Arts & Sciences Elective Code: B</p> <p>WAT-400 Permits and Administration 1</p> <p>Examines many of the supervisory and managerial issues faced by a water/wastewater professional. Students focus on operations management and permit procedures, as well as people skills. (1/0/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-924 Honors Project 1</p> <p>Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean</p> <p>WAT-928 Independent Study 2</p> <p>Offers special investigative projects related to water or wastewater plant operations selected by the student with the approval of the department advisor. (0/4/0/0), Arts & Sciences Elective Code: B</p> <p>WAT-932 Internship 3</p> <p>Offers a supervised training period in a water or wastewater treatment plant. The student participates in the routine daily operation and maintenance of the host water or wastewater treatment facility. (0/6/0/0), Arts & Sciences Elective Code: B</p>	<p>types of joints and welds, metals and their characteristics, testing and inspection, welding certifications, specifications and codes. This course follows the American Welding Society guidelines. (2/0/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-110 Welding Blueprint Reading 2</p> <p>Studies basic elements of drawings, orthographic views, structural drawings and welding symbols associated with welding fabrication. (2/0/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-113 Welding Blueprint Reading/Pipe 1</p> <p>Studies basic blueprint pipe welding symbols, dimensioning for layout and methods of representing a pipe layout. (1/0/0/0), Prereq: WEL-110; Arts & Sciences Elective Code: B</p> <p>WEL-128 Brazing/Soldering 2</p> <p>Introduces the techniques and procedures used to braze, braze weld and silver solder. Studies the various methods and procedures of oxyacetylene repair welding of cast iron and nonferrous materials. Aluminum welding techniques are stressed. (1/2/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-130 Oxyacetylene Welding 2</p> <p>Provides instruction in oxyacetylene welding, including the setup and operation of equipment and accessories. Welding procedures for light gauge steel and heavy steel plate in all positions and various joint types are taught. (1/2/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-134 Cutting Processes 2</p> <p>Develops skills used in oxyacetylene flame cutting, plasma cutting and semiautomatic flame cutting. Students learn about setup, operation and maintenance of equipment. Safety is stressed. (0.5/3/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-140 Introduction to Arc Welding and Weaving 1</p> <p>Includes operation of AC and DC welding equipment. Striking an arc, beads of weld in all directions, in the flat position and building beads of weld. Welding safety is stressed. Also covers welding techniques used to make beads of weld any width. Three basic weave patterns are taught. (0.25/1.5/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-141 Introduction to Joint Welding 1</p> <p>Studies in detail fillet welds in the flat position using single- and multiple-pass techniques. Includes an introduction to welding metallurgy. (0.25/1.5/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-142 Butt Joints 1</p> <p>Introduces the basic methods of preparing and welding butt joints in the flat position. Also includes the use of the A.W.S. welding symbols. (0.25/1.5/0/0), Arts & Sciences Elective Code: B</p> <p>WEL-143 Horizontal Welding Techniques 1</p> <p>Introduces horizontal welding techniques and</p>
<p>WEL: WELDING</p>		
<p>WEL-105 Welding Principles 2</p> <p>Provides students with instruction in welding and cutting principles and their applications. Course includes comprehensive treatment of electrical theory, safety, equipment, electrodes,</p>		

Course Descriptions

methods used to make various types of joints in the horizontal position. (0.5/1/0/0), Arts & Sciences Elective Code: B

WEL-144 Vertical Welding Techniques 1
Introduces vertical welding techniques and methods used to make various types of joints in the vertical position. (0.25/1.5/0/0), Arts & Sciences Elective Code: B

WEL-145 Overhead Welding Techniques 1
Introduces overhead welding techniques and methods used to make various types of joints in the overhead position. (0.25/1.5/0/0), Arts & Sciences Elective Code: B

WEL-146 AWS Bend Test 4
Covers the testing of welds including the preparation and welding of A.W.S. Welder Certification Guided Bend Tests in all positions using E-7018 electrodes. Students must pass this test to complete the metallic arc welding section of the welding program. (1.5/5/0/0), Prereq: WEL-157; Arts & Sciences Elective Code: B

WEL-156 Welding Skills I 4
Includes introductory concepts and theories in shielded metal arc welding. Students learn welding techniques for weaving and flat position fillet welds. Oxyacetylene torch and plasma cutter operation are also covered. (1.5/5/0/0), Arts & Sciences Elective Code: B

WEL-157 Welding Skills II 4
Introduces student to stick welding in the horizontal, vertical and overhead positions. Students learn to apply basic techniques to solve advanced welding situations. (1.25/5.5/0/0), Prereq: WEL-156; Arts & Sciences Elective Code: B

WEL-184 GMAW 3
Studies the setup and operation of the semiautomatic welding process, using both hard wire and flux core wire. (1/4/0/0), Arts & Sciences Elective Code: B

WEL-185 Advanced GMAW 3
Continues the study of gas metal arc welding. Learning activities focus on the welding process as it relates to the welding of stainless steels and aluminum. Flux core welding is included. (1/4/0/0), Prereq: WEL-184; Arts & Sciences Elective Code: B

WEL-192 Gas Tungsten Arc Welding 4
Covers all position welding techniques on ferrous and nonferrous materials using the heliarc welding process. (1.5/5/0/0), Prereq: WEL-130; Arts & Sciences Elective Code: B

WEL-199 Introduction to Flux Core 1
Continues the study of gas metal arc welding. Learning objectives focus on semiautomatic

welding process as it applies to flux cored welding. Students weld with both dual shield and self-shielding wires. Students learn the strengths and weaknesses of both processes. (0/2/0/0), Prereq: WEL-184; Arts & Sciences Elective Code: B

WEL-201 Procedures and Qualifications 1
Provides students with a thorough technical understanding of the importance of weld quality through development of procedures, qualification of procedures and measurement of people performance (skill and ability). The sequence of events required to prove proper methods, skills and maintenance of the qualification systems is also presented to provide a complete analysis of the requirements for quality welding. (0.5/1/0/0), Prereq: WEL-203; Arts & Sciences Elective Code: B

WEL-202 Discontinuities and Defects 1
Provides students with a thorough technical understanding of discontinuities and defects associated with arc welding. Welding discontinuities are identified, defined and the causes established related to weld shape, size and contour; internal inconsistencies and weld metal irregularities; and weld and base metal properties. These discontinuities are discussed with relation to variables in the welding procedure specific to the welding process employed. (0.5/1/0/0), Prereq: WEL-157 or WEL-184; Arts & Sciences Elective Code: B

WEL-203 Welding Codes 1
Provides the student with a thorough technical understanding of the purpose for welding codes, as well as the application of codes. Information is presented to explain the relationship between weld quality and the use of welding codes. (0.5/1/0/0), Prereq: WEL-206; Arts & Sciences Elective Code: B

WEL-204 Destructive Testing 1
Provides students with a thorough technical understanding of the purpose for destructive testing and procedures applicable to the variety of common destructive methods. The results of the test method are discussed to reinforce the reasons for testing in relation to weld quality. (0.5/1/0/0), Prereq: WEL-202; Arts & Sciences Elective Code: B

WEL-205 Nondestructive Testing 1
Provides students with a thorough technical understanding of the purpose for nondestructive testing and the procedures applicable to the variety of common nondestructive methods. The results of the test methods are discussed to reinforce the reasons for testing in relation to weld quality. (0.5/1/0/0), Prereq: WEL-204; Arts & Sciences Elective Code: B

WEL-206 Quality Assurance Program 2
Provides the student with a thorough technical understanding of the elements that must be considered to develop a quality assurance and quality control program. Information is presented to explain the relationship between cost and weld quality and the duties typically performed by the

welding inspector. (2/0/0/0), Prereq: WEL-105; Arts & Sciences Elective Code: B

WEL-208 Introduction to Fabrication 2
Provides students with hands-on fabrication basics used by welding industries. Covers layout, reading blueprints, applied math, cost estimation, jigs and fixtures, and introduction to shearing, bending, drilling, sawing and other manufacturing process associated with welding fabrication. (0/4/0/0), Prereq: MAT-764, WEL-110, WEL-184; Arts & Sciences Elective Code: B

WEL-230 Welding Quality Assurance 3
Focuses on understanding weld discontinuities and defects, their causes and prevention, and testing and maintaining weld quality. Emphasizes the importance of weld quality, and how quality is achieved through procedures, qualification of those procedures and welder qualification testing. Explores the relationship between weld quality and welding code use. Results of test methods are discussed to reinforce the reasons for testing. (3/0/0/0), Arts & Sciences Elective Code: B

WEL-302 Pipe Welding/ SMAW 2
Provides basic pipe welding techniques in the 2G and 2F positions using E6010 and E7018 electrodes. Basic fit-up and weld-off techniques with fillet welds and groove welds (with and without backing) are learned. Specimens are welded and tested to ASME code standards. (0/4/0/0), Prereq: WEL-157; Arts & Sciences Elective Code: B

WEL-304 Pipe Welding/SMAW Fixed Horizontal 3
Provides advanced pipe welding techniques in the 5G and 5F positions using E6010 and E7018 electrodes. Basic fit-up and weld-off techniques with fillet welds and groove welds (with and without backing) are learned. Specimens are welded and tested to ASME code standards. (1/4/0/0), Prereq: WEL-302; Coreq: WEL-305; Arts & Sciences Elective Code: B

WEL-305 Pipe Welding/SMAW Qualification 3
Provides advanced pipe welding techniques in the 6G and 6F positions using fillet welds and groove welds (with and without backing). Specimens are welded and tested to ASME code standards. (1/4/0/0), Prereq: WEL-302; Arts & Sciences Elective Code: B

WEL-306 Pipe Welding/GMAW 3
Focuses on entry-level skills using the gas metal arc welding process on pipe. (1/4/0/0), Prereq: WEL-184; Arts & Sciences Elective Code: B

WEL-307 Pipe Welding/GTAW 3
Teaches entry-level skills using the gas tungsten arc welding process on small-diameter, thin-wall

steel pipe in all positions. (1/4/0/0), Prereq: WEL-192; Arts & Sciences Elective Code: B

WEL-311 Pipe Weld/Heavy Wall GTAW 5

Teaches entry-level skills using the gas tungsten arc welding process on large-diameter, heavy-wall steel pipe in all positions. (1/8/0/0), Prereq: WEL-192; Arts & Sciences Elective Code: B

WEL-331 Welding Fundamentals 2

Covers basic welding techniques with oxyacetylene and electric welders. Designed for the general tradesperson working in the areas of mechanics and automotive technology. Students are introduced to a variety of welding situations including cutting, brazing and various welding positions on lighter gauges of metal and basic fabrication. (1/2/0/0), Arts & Sciences Elective Code: B

WEL-333 Auto Collision Welding 2

Introduces basic welding techniques that can be applied to auto collision repair. Students learn to weld light gauge sheet metal with the GMAW process. Instruction emphasizes the requirements needed to pass the I-CAR Automotive GMA (MIG) Welding Steel Qualification Test. Students also receive instruction in the use of an oxyacetylene torch and a plasma cutter. (1/2/0/0), Arts & Sciences Elective Code: B

WEL-924 Honors Project 1

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Requires approval of supervising professor and dean

WEL-928 Independent Study 1

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. (1/0/0/0), Arts & Sciences Elective Code: A; Comments: Permission of instructor, dean

WEL-932 Internship 3-6

Provides employment in an approved welding-related position. Includes instructor visits/evaluations and employer performance evaluations. (0/0/0/192-384), Arts & Sciences Elective Code: B

WEL-947 Special Projects 1

Allows for those needing specific welding training, other than the regular courses, or practice for various weld tests. Also for those needing review or upgrading of methods and skills. (0/2/0/0), Arts & Sciences Elective Code: B

Unit of Credit

A unit of credit is a semester hour. Normally, a semester hour of credit is given for one hour in class each week for a period of 16 weeks.

Course Load

Those pursuing 12 semester hours or more during any semester (nine hours or more in a summer term) are considered full-time students. To earn an associate degree in four semesters, students should plan to enroll for an average of 16 hours per semester.

The college will define full-time student status as less than 12 hours in rare situations that are based upon medical conditions that qualify for disability accommodations. The college will conduct its own assessment, as well as require assessment and documentation from qualified medical sources in accordance with already-established college ADA procedures. The determination will not supersede currently established federal financial aid regulations. These decisions will be coordinated by the dean of Learning Services.

There is no limit on the number of credit hours a student may carry in any semester. However, any student wishing to enroll in more than 18 hours in a semester will need the department dean's signature.

Students may not take a course for more or less credit than that assigned in the college catalog or credit class schedule.

Part-time course work may be undertaken in many programs. Students with an interest in attending part-time are advised to contact the appropriate program department for details.

Assignments and Examinations

Students are expected to complete all class assignments and examinations on time. It is the student's responsibility to make up any work missed during an absence from class.

Students must be present for final examinations as scheduled. In cases of illness or emergency during final exams, a student may be excused and the exam rescheduled by the instructor. In cases where such illness or emergency may extend more than a few days, the procedure for incomplete course work should be followed.

Grading System

Kirkwood grades and their values:

A	4.00	D+	1.33
A-	3.67	D	1.00
B+	3.33	D-	0.67
B	3.00	F	0.00
B-	2.67	FW	0.00
C+	2.33		
C	2.00		
C-	1.67		

Other grades:

FW	Failure to withdraw
P	Passing credit
Q	No credit
I	Incomplete
E	Excused without credit
T	Credit by examination
N	Audit
W	Withdrew from course
X	Course repeated
O	Original grade removed

The grades A, B, C, D, F and FW are included in the computation of grade point average. Credit toward graduation is granted for A, B, C, D, P and T.

Grades can be accessed online at <http://eaglenet.kirkwood.edu>.

Incomplete Grades

A student who is unable to complete assigned work because of extenuating circumstances may be assigned the grade of "I" (incomplete). In such cases, the instructor and student must complete an Incomplete Grade Agreement form documenting the remaining course requirements and the date they must be completed.

The maximum time a student is permitted to carry an incomplete grade is one year. After this time, in the absence of any alternative grade being assigned by the instructor, the "I" grade will be changed to "F." The student should contact the instructor about assignment of a final grade before reregistering for the course.

Independent Study

Independent study is special course work offered to expand knowledge in a specific area beyond the existing curriculum. Students requesting independent study must have previous backgrounds and good performance records in the areas in which independent study is sought.

Independent study should not be used to meet college requirements that can be satisfied through regular course offerings. Students need to discuss the independent study course contract with instructors before registering.

Academic Policies

Credit by Examination

Students may earn credit hours through the College Level Examination Program (CLEP) or through a variety of department-approved subject matter examinations or Advanced Placement tests. These examinations enable students to earn college credit for their knowledge in various subject areas by allowing them to test out of individual courses. Credits awarded through the examination process will count toward the number of credit hours needed for the program degree, diploma or certificate. The dean of the respective department will have final approval of credits awarded by examination.

For further information about these exams, check with the dean of students office.

Waiver Credits

To issue a waiver of a course requirement, the student must describe and document all knowledge, skills and previous occupational work experience as it pertains to the course(s) in question. Upon satisfactory completion of a minimum of 16 credit hours at Kirkwood, the student request will be officially processed. The waiver of course requirements must have the final approval of the dean in each respective department. The student's degree audit will indicate the courses that were waived under this policy. Questions regarding waiver of course requirements should be directed to the appropriate department office.

Fraudulent Academic Credentials

Any person seeking to become a student at Kirkwood Community College who submits fraudulent or altered academic credentials to the college, or who is found to have altered Kirkwood academic credentials or records, will be subject to penalties ranging from suspension or expulsion from the college to legal prosecution.

Adds, Drops and Withdrawal of Registration

Dates for adds, drops and complete withdrawals of registration are listed in the student handbook and at www.kirkwood.edu/calendar. Comparable dates for shorter sessions are available from Enrollment Services.

Students may add a course at any time during the first week of a regular semester or during the first three days for shorter sessions, subject to the course load conditions and tuition schedule listed earlier.

Students may drop individual courses prior to the drop date listed on the academic calendar and from the dates available from Enrollment Services. Classes may be dropped at www.kirkwood.edu/eaglenet. After the last day to drop individual courses for a semester or a session, students must remain in the scheduled courses. Students who stop attending classes without officially dropping them will receive "F" or "FW" grades. Classes that have ended cannot be dropped.

Students may withdraw their entire enrollment at any time up to the day prior to finals week. A grade of "W" will be assigned for all courses. Classes that have ended cannot be dropped. In cases of personal tragedy (death, severe illness or disability),

Enrollment Services can initiate a withdrawal for a student prior to the last day to drop classes.

Change in registration forms are available from Enrollment Services, advisors, counselors and department offices.

Reinstatement Policy

Students who fail to pay their tuition by the due date will be dropped from their classes. A Petition for Reinstatement form must be completed for any classes that have already started. The instructor's signature must be secured and tuition paid for each removed class. After all classes are re-added and paid for, students may drop any classes they don't wish to maintain, in accordance with the established drop policy.

One-time Waiver Policy

Students who received a grade of "FW" because of failure to complete an official withdrawal may be eligible for a one-time waiver of the last day to drop individual classes. In order to qualify, students must have no "Ws" on their academic records. Contact Enrollment Services for details.

Credit Assignment in Emergency Situations

After completing at least two-thirds of an academic term, a student may petition to receive a grade and credit for all courses in the program at the time of such emergency situations as:

- induction, but not enlistment, into the United States armed services;
- serious personal or family illness requiring the student to withdraw from all classes;

- death in the immediate family; or
- other similar emergency circumstances that prevent the student from completing the academic term.

Students who believe they are entitled to consideration under this policy must file petitions with Enrollment Services, 2nd floor Kirkwood Hall. Appropriate documentation of emergencies must accompany petitions. A committee will review the petitions to ensure conformity with the policy. Those found to be in conformity will be forwarded for response to instructors involved. Instructor response may include assigning grades then in progress, assigning reduced grades in consideration of unmet course requirements or declining to assign grades. In any case, students retain the right to withdraw from courses.

Academic Progress

Students who achieve and maintain the minimum cumulative grade point average and complete course requirements in the prescribed sequence are considered to be making satisfactory academic progress.

Students who fail to achieve this standard will be placed on academic warning or probation.

Academic Warning

Based upon non-passing grades at midterm of current semester.

Academic Probation

24 or more attempted hours with a GPA of less than 2.0.

The dean of students reviews students' academic records each semester and will notify students of their warning or probationary status. Students will remain on academic probation until their cumulative GPA is raised to the appropriate level.

If a student is receiving financial aid, the student must also meet satisfactory academic progress requirements as defined by Financial Aid. Those requirements are:

- 1) Satisfactorily complete at least 50 percent of the first 29 credit hours and attain a cumulative GPA of at least 1.8.
- 2) Satisfactorily complete at least 60 percent of the first 59 credit hours and attain a cumulative GPA of at least 2.0.
- 3) Satisfactorily complete at least 70 percent of the first 60+ credit hours and attain a cumulative GPA of at least 2.0.

Disciplinary Probation and Suspension

The dean of students, 115 Iowa Hall, administers disciplinary probation and suspension. In general, such matters are handled with due process, and appeals are made available as appropriate. The student handbook, available from Student Life, 104 Iowa Hall, contains further information.

Readmission

Students who have withdrawn from the college in good standing and who desire to be readmitted should apply at www.kirkwood.edu/apply. Students who are readmitted after absence from the college and who desire associate degrees will be required to fulfill current graduation requirements.

Auditing Courses

Audit enrollment in courses provides students the opportunity to attend a class as a noncredit participant, usually as a listener-observer. This kind of enrollment may have value for students who want an introduction to subjects outside their major fields, a review or refresher, or other purposes where credit and grades are not needed or would pose an unnecessary academic threat.

With the permission of instructors, students can enroll in any courses on an audit basis. Students and instructors must agree on what portion(s) of courses the students plan to audit and the requirements the instructors have for attendance and participation. If the students fulfill the agreement for the audit, the grade of "N" will be entered on the students' academic transcripts. If the students do not fulfill the audit agreements, the registrar, upon request from the instructor, will withdraw the students from the courses and assign a grade of "W."

Audit enrollments carry no credit or grade point value. No inference is made regarding the quality of a student's mastery of the course subject matter.

Standard tuition applies to all audit enrollments regardless of the length and scope of the audit. The last day to change from graded credit to audit is the same as the last day to drop an individual class. Once changed to audit, the class cannot be changed to graded credit.

Repeating Courses for a Better Grade

Students may repeat courses taken at Kirkwood to try to improve their original grades. The original grades will be changed to X, which carries no credit and has no effect on grade point average. However, if courses are repeated, and students get lower grades, the higher of the two grades will be retained.

In some cases, it may be beneficial for a student to retain both the original and repeat grades. A student who wishes to retain both grades must inform Enrollment Services.

For those courses that may be taken for credit more than one time, the second grade will not replace the first.

Forgiveness of Failing Grades

Grades of "F" (or any other failing grades) can be changed to "O" (no credit) if the student is currently enrolled, tuition has been paid and,

- the student has not been enrolled in any program of higher education for a period of at least three consecutive years from the date of last attendance, or;
- the student has honorably served in the U.S. armed services for a least two years since receiving the failing grade.

Dean's List

Students with outstanding academic records are named to the Dean's List. To qualify, a student must have completed 12 credit hours of graded course work and achieved a grade point average of 3.3 or higher. A minimum of six graded credit hours must be earned in the term of the award.

Student Record Retention Policy

Kirkwood retains students' official academic records (transcripts) of enrollment and credit earned in perpetuity. All other student record documents are destroyed two years after the student's last enrollment at the college.

Students who believe there is an inaccuracy in their transcripts must notify Enrollment Services. Upon destruction of the supporting student record documents two years after the student's last enrollment, the transcript is regarded as the final accurate record of academic accomplishment.

Transcripts

Transcripts are available through Enrollment Services. If students want transcripts sent anywhere other than another college or themselves, they must submit requests in writing with their signatures or request online at www.kirkwood.edu/eaglenet. In accordance with common higher education practice, only transcripts mailed from the registrar's office of one college to another are considered official; faxed transcripts and transcripts that have been in the possession of students are not official.

Filing a Graduation Application

A student who plans to earn an associate degree, diploma or certificate of program completion must file a graduation application on EagleNet.

College commencement exercises are held in May. Students completing programs in the fall or summer terms are encouraged to participate in commencement. Participation in the ceremony is voluntary. In order

to be included in the commencement program students must have their graduation applications submitted by April 1. The awards will be mailed to students when semester grades are recorded and evaluated.

Change of Major

Students who change their majors will be accountable, in terms of graduation requirements, only for work done in the new majors. The course work and grade point averages earned in earlier majors will continue as part of their transcripts and records, but only those courses and grades applicable to the new majors will be used to determine graduation.

Students contemplating changing their majors are encouraged to discuss their plans with a member of the advising staff.

Earning Multiple Awards

Kirkwood confers certificates, diplomas and associate degrees. The awards are earned in progression based on the numbers of credit hours required to complete a program of study.

A student may earn one award per term. A student may earn additional certificates, diplomas or degrees in subsequent terms by earning the following minimum hours in resident course work, along with the other requirements of the award:

Certificate	6 semester hours
Diploma	8 semester hours
Associate degree	12 semester hours

When the sequencing and frequency of offering required courses results in a student having to simultaneously work on more than one award, the appropriate department may recommend granting an exception to this policy.

Transfer of Credit from Other Institutions

When examining transcripts from other colleges, Kirkwood follows the recommendations contained in the current issue of the Transfer Credit Practices of Designated Educational Institutions, published by the American Association of Collegiate Registrars and Admission Officers.

Kirkwood may accept the credit given to a student who has done successful work at another college provided our evaluation determines that the work was from a regionally accredited institution.

In evaluating students' transcripts from previous institutions, Kirkwood applies the following general policies:

1. Grades of "F" (or any other failing grades) for transfer students will be ignored in the computation of a cumulative transfer grade point average if any of the following conditions are met:
 - a) The student has not been enrolled in any program of higher education leading to an associate degree or bachelor's degree for a period of at least three consecutive years since receiving the "F;" or
 - b) the student has served in the U.S. armed services for at least two years or any smaller portion thereof if discharged with a service-connected disability.
2. Grades corresponding to "D-" or better will be accepted for transfer into Arts and Sciences majors and will be accepted toward fulfilling general education requirements for Applied Science majors. Higher grades may be required for some program courses.

3. Decisions about the applicability of transfer courses toward Kirkwood requirements will be made by Enrollment Services and reported to the students. Any questions regarding such decisions should be directed to that office.

When Kirkwood accepts a student's transfer credits toward an associate degree, it cannot guarantee how other colleges will treat these same credits.

Acceptance of Vocational-Technical Credit

Kirkwood accepts vocational-technical credits earned in courses that are part of Associate of Applied Science degree programs at Kirkwood or other Iowa community colleges. Such credits are herein referred to as technical credits.

A maximum of 16 hours of technical credits are acceptable toward Associate of Arts or Associate of Science degrees, but the credits may not be used to satisfy core or general educational requirements.

Residency Requirement

Students completing A.A., A.S., A.S./C.O. or A.A.S. degrees must earn a minimum of 16 credit hours from Kirkwood.

Special Notice to Students

Each student is responsible for being familiar with the information appearing in this catalog. Failure to read the regulations will not be considered an excuse for noncompliance.

The college reserves the right to change policies or revise curricula as needed due to unanticipated circumstances.

Rules and regulations in this catalog have been adopted by the faculty, administration and the Board of Trustees of the college. If a student finds that extenuating circumstances might justify the waiver of a particular college regulation, that student may file a petition with the registrar, according to established procedures.

This catalog has been designated to provide students with most of the information they will need about Kirkwood Community College. Students should be aware, however, that the catalog is not intended to be a complete statement of all procedures, policies, rules and regulations; and that the college reserves the right to change without notice any academic or other requirements, course offerings, contents, programs, procedures, rules and regulations, fees, etc., in various publications.



Academic Policies

Family Educational Rights and Privacy Act (FERPA)

The college complies with the Family Educational Rights and Privacy Act of 1974. The law provides three fundamental rights to students who attend postsecondary institutions:

- Right to inspect and review education records.
- Right to request to amend education records.
- Right to limit disclosure of “personally identifiable information” contained in education records.

At the postsecondary level, rights under FERPA are afforded to students and not parents, even if students are less than 18 years of age. In accordance with this federal law, the college adopted policies and procedures governing the confidentiality of student educational records.

The law states certain information such as name, address, telephone number, dates of attendance, degrees and awards, full- or part-time status, etc., is directory information, and each college can formulate its own policy about what directory information it will release. It is Kirkwood’s policy not to release names, addresses and phone numbers. Exceptions are made when names and hometowns of graduates are listed in newspapers, commencement books or team rosters. Students can ask that even directory information be withheld.

Requests must be filed each term in Enrollment Services.

Questions about this law and about college policy should be directed to Enrollment Services, 2nd floor Kirkwood Hall. Students have the right to file complaints with the U.S. Department of Education.

Academic Assessment Policy

Kirkwood Community College is committed to offering quality educational programs that help students reach their goals and realize their potential. For this reason, assessment is an ongoing part of all Kirkwood programs. Placement scores, academic achievement assessments, surveys, pre-/post-tests, licensure examinations and other measures of educational progress provide important information about how Kirkwood students perform as a group.

If students take assessments seriously, Kirkwood personnel will have accurate information to evaluate quality, plan effectively and improve the college’s programs and services. Students are therefore expected to give their best efforts to Kirkwood assessment activities. Anonymity of participants will be protected when reporting assessment results.

Public Information

In compliance with Public Law 105-244, Kirkwood Community College makes a wide variety of general institutional information available to students. The scope of information available includes:

- 1) financial assistance policies and procedures,
- 2) general institutional items such as graduation and transfer rates,
- 3) security policies and crime statistics, and
- 4) athletic participation and support statistics.

Interested students can contact the Public Information office, 319-398-4939.

Student Development (Counseling)

Cedar Rapids Main Campus
115 Iowa Hall
319-398-5471
Mon.-Thurs. 8 a.m. to 8:30 p.m.
Fri. 8 a.m. to 5 p.m.

Iowa City Campus
319-887-3658
Mon. 8 a.m. to 7 p.m.
Tues.-Fri. 8 a.m. to 4 p.m.

www.kirkwood.edu/counseling

Counselors are available for students who need help with academic concerns, career plans or personal matters. A counselor or intake coordinator is available on an appointment or drop-in basis to provide general Kirkwood information or refer students to the appropriate staff member, agency or counselor. The following assistance and services are available:

- Personal counseling.
- Student advocacy.
- Career and educational planning.
- College/university transfer information.
- Resource library.
- Course and curriculum information.
- Personal development classes (Human Potential Lab, Career Decision-making, Job-seeking Skills, other credit classes).

The office also provides a resource library of brochures and articles for students to browse. Topics range from depression to midlife career changes and how to prepare for exams.

Career Services

Cedar Rapids Main Campus
115 Iowa Hall
319-398-5471

Career Services assists students, alumni and community members seeking and/or preparing for employment.

- Post resumés and search current opportunities on our jobs Web site, www.kirkwood.edu/jobs.
- Use our resource library, with extensive Internet sites bookmarked for research.
- Come to job fairs and on-campus recruitment events.
- Receive personalized career search assistance.
- Use career-related programs and workshops that are available during day and evening hours.
- Participate in Job Club activities.

Job Club

Cedar Rapids Main Campus
115 Iowa Hall
319-398-5471

Kirkwood's Job Club is a place where job seekers share ideas, network with others and view job listings. Students can use our computers, telephones and career-related workshops, including:

- Career Directions workshops.
- Free job searching workshops in resumé writing, applications, correspondence writing, interviewing, mock interviewing and job searching via the Web.
- Job Club open lab.
- Individual and group support.
- Myers-Briggs Type Indicator Assessment.
- Choices Planner Online Assessment.
- Resumé critiquing.
- Assistance from local employers.

Advising and Transfer Center

Cedar Rapids Main Campus
108 Iowa Hall
319-398-5540
Mon.-Thurs. 8 a.m. to 6 p.m.
Fri. 8 a.m. to 5 p.m.

Iowa City Campus
112 Credit Center 319-887-3658
Mon., Thurs., Fri. 9 a.m. to 5 p.m.
Tues., Wed. 9 a.m. to 8 p.m.

att@kirkwood.edu
www.kirkwood.edu/advising

Academic advisors are available to:

- Assist with developing academic plans.
- Clarify course requirements.
- Refer students to support services, if needed.

Students who are planning to transfer to four-year institutions can receive assistance in the Advising and Transfer Center. The center serves as a liaison between Kirkwood and four-year colleges and universities. Whether it is a viewbook, application or schedule of upcoming four-year college visits, the Advising and Transfer Center can provide many pieces of information to interested students.

EagleNet

EagleNet is your online access to Kirkwood resources and registration information. EagleNet allows you to:

- Check your grades;
- Register for classes;
- Drop classes;
- Get your class schedule;
- Check your tuition bill;
- Check your financial aid status; and more.

For a complete list of EagleNet features and functions, go to <https://eaglenet.kirkwood.edu> and click on EagleNet for Students.

Academic Resources

Your EagleNet user ID is sometimes called your “k” number. Your k number is the letter k and a sequence of seven numbers (example: k0003750). Your k number and password are kept confidential. If you forget your k number, go to 2nd floor, Kirkwood Hall and provide photo identification.

Project START

Cedar Rapids Main Campus
115 Iowa Hall
319-398-4943

Project START (Supported Training and Retraining) helps students overcome barriers they may encounter while reaching their academic and career goals. We can help students by providing financial assistance, helping with study skills and test taking, monitoring class progress, arranging special assistance, and serving as an advocate with instructors and other college personnel.

START assistance is available for a maximum of two or three consecutive semesters. Referrals are accepted on an ongoing basis from community agencies and Kirkwood counselors, instructors and staff. Students must apply and be accepted into the program.

Project START began as a cooperative effort between Kirkwood and the Hall-Perrine Foundation and receives continued funding from the Kirkwood Foundation.

Student Advocacy

Cedar Rapids Main Campus
115 Iowa Hall
319-398-5471

Students, faculty, staff, service providers and visitors who are involved with any aspect of the college’s mission are members of the Kirkwood learning community. As such, we share certain rights and responsibilities to each other and the learning process, among them the right to a positive educational climate and the responsibility to uphold the values that create and sustain this climate including:

- Valuing diversity.
- Respecting and managing resources.
- Promoting opportunities for educational growth and development.
- Encouraging a spirit of ethical judgment.
- Learning to engage in a sustained and independent search for truth.
- Maintaining an orderly, civil and safe campus environment.

If you have concerns about these areas, contact the dean of students, 115 Iowa Hall, 319-398-5471.

Learning Services

Cedar Rapids Main Campus
2063 Cedar Hall
319-398-5574
www.kirkwood.edu/learningservices

Learning Services offers a variety of courses and support services to students. Course offerings include reading, math, writing, workplace communication and personal skill development. Support services include tutoring, assistive technology, counseling and advising, Internet and computer-based instruction and

skill development, aptitude and skill assessment, electronic texts, disability accommodation services and sign language interpreters.

Test Centers

Cedar Rapids Main Campus
2055 Cedar Hall
319-398-5456
Mon.-Thurs. 8 a.m. to 8 p.m.
Fri. 8 a.m. to 5 p.m.

Iowa City Campus
243 Credit Center
319-887-3642
Mon.-Thurs. 9 a.m. to 8 p.m.
Fri. 9 a.m. to 5 p.m.

A wide variety of testing services are provided to prospective students, current students, graduates and the community at large. Prospective students participate in COMPASS (computer adaptive) assessment testing to help determine their readiness for college-level classes. Once prospective students complete COMPASS, advisors help them interpret the results. Current students use the center for department make-up exams and Anytime/Anywhere exams for distance-delivered courses.

English Language Acquisition (ELA) tests are given to incoming students whose native language is not English. The Emergency Medical Services testing, Retake Examinations and a variety of other tests are provided as a service to community members.

Personal Achievement

Cedar Rapids Main Campus
2063 Cedar Hall
319-398-5574

Personal Achievement offers classes in writing, mathematics, pre-algebra, basic study skills or a 12-credit college prep block, Basic Writing and How to Be Successful in College. Upon enrollment, a short interview and diagnostic testing help identify the student’s academic strengths and weaknesses. Based upon the results, a plan of instruction is developed with each student. Classes are offered in an individualized or small-group setting.

Disability Support Services

Cedar Rapids Main Campus
2063 Cedar Hall
319-398-5574

A student who has a disability and needs accommodations because of the disability should file an accommodation application with Learning Services, 2063 Cedar Hall. Once the student completes the application and supplies documentation, a case manager is assigned to assist the student in the development of an academic plan and to implement reasonable accommodations. Application forms can be obtained in Learning Services.

Skill Center

Cedar Rapids Main Campus
2063 Cedar Hall
319-398-5454

The Skill Center is a CARF-accredited Comprehensive Vocational Evaluation and Employment Skill Training program that helps people with disabilities determine their

potential for competitive employment or further educational training.

Vocational evaluation assessment activities, both diagnostic and prescriptive, are designed to guide them into employment or training and are based on their needs and consist of a broad-based series of testing and activities. Areas of evaluation include, but are not limited to, Interest Identification, Career Exploration, Food Service, Health Care, Child Care, Custodial, Business Occupations and Industrial Technology. Employment Skill Training is offered to provide specific training so they can compete successfully for jobs or advance in their current positions.

Additional services include job seeking skill development, transition into college classes and supported education. Job seeking skill development services can be provided to help Skill Center students obtain employment. These services include resumé preparation, interview techniques and application procedures. When Skill Center students plan to further their education, a variety of services are available.

Expected outcomes include recommendations for job placement, additional training or education needs, other community services needs, and support needed for vocation or academic success. Students receive information to make informed choices to guide them into employment.

Students enrolled in credit classes can receive assistance through the Skill Center’s Supported Education program. Students meet regularly with staff members who offer encouragement, monitor their progress and keep in touch with

their instructors to help them successfully complete their education programs. Supported Education is a comprehensive system that provides individualized educational assistance to students enrolled in vocational training programs at Kirkwood. Time management, study techniques, advocacy, tutoring, independent study time and counseling are provided to maximize their potential for successful completion of vocational training programs.

Student Support Services

Cedar Rapids Main Campus
2063 Cedar Hall
319-398-5574

Student Support Services is a federally-funded TRIO grant project that helps eligible participants persist and graduate from college. The project offers counseling, tutoring and computer writing/editing services.

Recipients of these services must be citizens or nationals of the United States who are currently enrolled in a credit program. They must also meet at least one of the following requirements:

1. first-generation student;
2. financial aid eligible; and/or
3. presence of a disability.

Counselors are available to help students resolve personal, financial and academic issues including guidance in the successful transition into a college environment. A writing instructor tutors students in the progressive steps in planning, organizing, writing, revising and proofreading written academic assignments. Instruction is also available on the basic use of word processing software and the Internet.



Academic Resources

Tutor Program

Cedar Rapids Main Campus
2071 Cedar Hall
319-398-5425

Iowa City Campus
112 Credit Center
319-887-3658

Tutoring services are available on request for any student enrolled in a credit course at Kirkwood. There is no charge to the learner, and tutoring is available every term, day and evening.

Many tutors are Kirkwood students who are paid by the college for their services. Students interested in being tutors may apply through the Tutor Program office.

Communications Skills Program

Cedar Rapids Main Campus
2033 Cedar Hall
319-398-5899 ext. 5825

This program develops communication competencies in Applied Science and Technology students. Courses within the Communications Skills program build on one another to provide students with practical, applied knowledge of how to communicate in the workplace.

VITAL

Cedar Rapids Main Campus
2042/2044 Cedar Hall
319-398-5574

The Vocational Individualized Training and Learning (VITAL) program is jointly administered by Kirkwood, Grant Wood Area Education Agency and local high schools. VITAL provides vocational

training and support services to students who were enrolled in special education programs in high school and are now enrolled in Applied Science and Technology programs at Kirkwood. For information about referral procedures for the VITAL program, contact the dean of Learning Services.

Perkins Vocational Education Services

Cedar Rapids Main Campus
2063 Cedar Hall
319-398-5574

This supported education service is a comprehensive system providing individualized support to students enrolled in Applied Science and Technology programs. The Perkins staff functions as advocates and advisors to students and maintains ongoing communication with students' instructors to monitor their progress. An Individualized Education Plan is developed for each student to identify specific problems or barriers the student is encountering and details intervention strategies to overcome these barriers.

Other Educational Opportunities

College 101

Cedar Rapids Main Campus
115 Iowa Hall
319-398-5471

College 101 is a three-credit-hour course offered to first-time Kirkwood students, aimed at developing the skills needed to be successful. Some of the course topics include:

- Adjusting/transitioning to college.
- Learning college-level study skills.

- Planning career pathways.
- Connecting to the college culture.
- Developing a plan of study.
- Advancing personal growth.
- Continuing education after Kirkwood.

Linked Courses

Linked Courses are pairs, or clusters, of courses a student takes with the same group of other students. Usually, these courses are scheduled back-to-back, and the faculty teaching them weave syllabi, reading and writing assignments so concepts, ideas, practices and approaches are enriched in each course. Research indicates students who enroll in Linked Courses persist from semester to semester and earn higher GPAs than students who do not.

Service Learning

225 Cedar Hall
319-398-5899 ext. 5019
jean.mcmenimen@kirkwood.edu

Students can combine community service with classroom learning in a number of Kirkwood courses. A faculty member may assign community service work as a course requirement. The Service Learning project is jointly coordinated by the individual faculty member and the Coordinator of Student Learning with an appropriate outside service agency. Students will engage in service to address genuine community needs. The service is directly related to their academic course work. Students will also engage in structured reflections, which may take many different forms: journals, portfolios, interviews, oral, and/or written reports.

Honors Program

Kirkwood's Honors program challenges students to be the best in their chosen fields by working closely with Kirkwood faculty members within the discipline and completing special honors projects.

Phi Theta Kappa

Phi Theta Kappa is the only internationally-recognized honor society for students attending two-year colleges. Kirkwood's local chapters are Alpha Eta Rho, for main campus students, and Beta Lambda Tau, for students at the Iowa City Campus.

Both organizations give achievement-minded Kirkwood students the opportunity to network with and energize one another, participate in service projects within the community and be part of a highly-esteemed group on campus.

Members of Alpha Eta Rho or Beta Lambda Tau must complete 12 credit hours at Kirkwood and have a 3.5 or greater cumulative GPA.

Honors Program Credits

Honors program credits are paid for by the Kirkwood Foundation. Eligible students may receive up to four free honors credits.

Students eligible to participate in the Honors program should contact the Honors program faculty chair. In order to register for one-credit honors projects, students must submit completed add forms to Enrollment Services and send copies of the honors project learning contracts to the designated recipients.

Study Abroad

Students earn college credits while embarking on once-in-a-lifetime adventures through Kirkwood's Study Abroad programs. They greatly expand their horizons by stepping outside the conventional college environment, meeting and traveling with other college students, and fully experiencing world cultures.

Financial aid can be applied to Study Abroad programs and scholarships are also available. For more information about Kirkwood's Study Abroad programs visit www.kirkwood.edu/studyabroad.

Veterans Services

Cedar Rapids Main Campus
2nd floor Kirkwood Hall
319-398-5633

Kirkwood is committed to serving those in the community who have served or are serving in the military. Almost all programs are approved by the Department of Education for payment of Department of Veterans Affairs educational benefits. A full-time staff person is available to assist veterans in the application process to ensure the students' programs meet federal guidelines.

As another service to our student-veterans, Kirkwood offers a Veterans Lounge, available to all vets and open during regular college hours. Located on the third floor of Iowa Hall next to the Amana Room, the Veterans Lounge provides a spot to check e-mails, quietly study or just to enjoy camaraderie with fellow veterans.

Veterans Benefits

Veterans and members of the selected reserves may be eligible to receive educational benefits while enrolled in and pursuing an approved program of education and training. Veterans have 10 years from their date of active duty discharge in which to use their educational benefits. Spouses of veterans rated by the VA who are found to be totally and permanently disabled from a service-related disability or have died due to a service-related disability have 10 to 20 years from their initial date of eligibility. Children of these veterans have until age 26. Members of the selected reserves have 10 years from the date of basic eligibility as noted on the DD2384 issued by their units. Reservists who were ordered to active duty after September 11, 2001, in response to war or national emergency, have no delimiting date as long as they remain in their reserve component.

To be eligible for veterans educational benefits, students must:

1. be eligible under one of the benefit programs of the Department of Veterans Affairs;
2. be pursuing courses at least as half-time students to receive monthly benefits;
3. maintain a 2.0 grade point average for graduation or show satisfactory progress each term while on academic probation;
4. pursue one major at a time;
5. take only courses applicable to stated, current majors.

Servicemembers Opportunity Colleges

Kirkwood is designated as a member of the Servicemembers Opportunity Colleges (SOC), a group of more than 1,200 colleges and universities throughout the world providing postsecondary education to members of the military.

Academic Resources

As an SOC member, Kirkwood recognizes the unique nature of the military lifestyle and has committed itself to easing the transfer of relevant course credits, providing flexible academic residency requirements and crediting learning from appropriate military training.

Veterans Education Outreach Program (VEOP)

Recognizing students who receive veterans educational benefits periodically need special services, the college has established the VEOP. The veterans affairs specialist:

- Coordinates veterans' services with other campus services such as admissions, financial aid, counseling or placement.
- Maintains communication with military reserve and National Guard units, as well as local members of the active military, to identify and serve people eligible for benefits and entitlements.
- Serves as the principal contact person and advocate for eligible students attending or seeking to attend Kirkwood. This may include facilitating admission, evaluating military credits, developing and monitoring degree programs, or serving as an information-referral source.

Further questions should be directed to the veterans affairs specialist.

Vocational Rehabilitation

Cedar Rapids Main Campus
123 Iowa Hall
319-398-4925

The Vocational Rehabilitation office works with Iowans with disabilities to:

- Find employment or expand skills to increase employment possibilities.

- Gain accessibility to school or work and increase independence.
- Find financial support through counseling and guidance.
- Determine eligibility for Kirkwood programs and help with the college application process.

Library Services

Cedar Rapids Main Campus
Benton Hall
319-398-5553

Iowa City Campus
319-887-3613

Toll free 1-866-452-8504
www.kirkwood.edu/library
library@kirkwood.edu

The Cedar Rapids and Iowa City Kirkwood libraries are open to all students, staff, faculty and area residents. The librarians are experts in helping you navigate the college research process by defining the information you need, helping you find credible sources and helping you evaluate the sources. If the information you need is not available here, we will order it for you from another library through the Inter Library Loan program.

If you are working from home, are a distance education student or attend class at one of the Kirkwood centers, the same library services are available to you. The library Web site provides a full array of resources and services that you would find inside the libraries, along with instant messaging reference and handouts on creating citations and finding reliable Web sites. Librarians are available by phone to help you with your research and can send library materials to Kirkwood centers for your use.

Information Resources & Technology

In addition to quality books, journals and DVDs to use in your research, we have many online databases of magazine, journal, news and reference articles that you can access from any campus computer or your home computer. If you prefer working from a library table or relaxing in a stuffed chair as you write, you may check out a laptop for use within the library or bring your laptop to connect with the campus wireless network. Wi-fi is accessible in both libraries, and all library laptops have Microsoft Office.

Facilities

The newly renovated Cedar Rapids main campus library is located in Benton Hall. You will find many places to study on the first and second floors, comfortable seating, study carrels and natural lighting. The second floor is designated as a quiet study area and has several group study rooms.

The Iowa City Campus library provides the same services but on a smaller scale. Study space, comfortable seating, individual carrels and a group study room are available. You will find the library in the Credit Center Building in the middle of the first floor.

Information Literacy Class SDV-119

This is a one credit-hour class taught by librarians who introduce students to the library research process. Students learn to systematically and efficiently locate, evaluate and use information through hands-on practice. Students will learn skills essential for any college student, but the class is especially helpful for students planning to transfer to a four-year college.

Writing Center

Cedar Rapids Main Campus
3067 Cedar Hall
319-398-5411 ext. 5055

Iowa City Campus
134 Credit Center
319-887-3658

Students go to the Writing Center when they need objective readers for paragraphs, essays, research papers, journals, book reports, resumés and other writing-related activities. The writing center staff does not proofread work, but helps students improve their writing.

Writing Center hours are posted each semester. Students may stop by at any time, however, it is wise to call ahead for an appointment. Students taking classes at other Kirkwood locations may fax papers to the Writing Center and schedule a telephone conference. Additionally, the Marion Center now has limited Writing Center hours in Computer Lab 104.

The Center for Online Writing provides the same services as the Writing Center, except that no appointment is needed, and all help is transmitted via e-mail and e-mail attachments. Access the Center for Online Writing from the Kirkwood home page or at www.kirkwood.edu/faculty/rschlue/kccow/cow.htm.

Distance Learning

Anytime/Anywhere

Cedar Rapids Main Campus
210 Linn Hall
319-398-4958

Anytime/Anywhere classes offer students the flexibility to learn outside the traditional classroom. Courses start on specific dates in

August, October, January, March or May and finish in 16 weeks (12 weeks for the summer/May term). Each course is designed by a qualified teacher, who is available to answer questions, respond to assignments and grade exams. Courses are offered in packet or Internet formats, and many will have weekly assignments. All courses meet the goals and objectives of the same courses offered in the traditional classroom and transfer to other institutions in the same way. For more information about Anytime/Anywhere classes, refer to the current credit class schedule at www.kirkwood.edu/distance learning.

Interactive Instructional Television

Cedar Rapids Main Campus
214 Linn Hall
319-398-1262

The Kirkwood Telecommunications System (KTS) offers courses and programs over an interactive instruction television system that links instructors to students at many different locations. This technology provides two-way audio and video communication. Interactive television instruction greatly increases the number of courses the college can offer at Kirkwood centers and other locations. The efficiency of the KTS delivery system saves students time and travel, while providing an interactive learning environment with the instructor and other students. Kirkwood also offers college credit courses over the statewide Iowa Communications Network (ICN). For more information go to www.kirkwood.edu/distance learning.

Advance Accelerated Degree Program

Kirkwood Resource Center
1030 Fifth Ave. SE, Cedar Rapids
319-398-1050
advance@kirkwood.edu
www.kirkwood.edu/advance

Advance is a unique accelerated business degree designed for working adults who want to further their education while balancing work and family. After earning an associate degree from Kirkwood, you can transfer to a four-year college or university to complete your bachelor's degree.

You can take courses on evenings and weekends, once-a-week, in five- and 10-week blocks. Outside projects and assignments complement the abbreviated class meeting schedule.

If you're interested in Advance, you need a minimum of three years work experience, to be at least 21 years old and demonstrate competencies in reading, writing and math, either through COMPASS test scores or previous college experiences.

Secondary Programs

Lincoln Center
912 18th Ave. SW, Cedar Rapids
319-366-0142
lincoln@kirkwood.edu

Adult Literacy

The Adult Literacy program assists adult learners to become literate and obtain the knowledge and skills necessary for employment and self-sufficiency. The program also assists adults in the completion of a secondary school education.

Kirkwood coordinates volunteer tutor programs in Cedar Rapids, Iowa City and Washington. Tutors are recruited, trained in basic teaching techniques,

Academic Resources

and matched with an adult who can benefit from instruction in English, reading or math. Tutoring services are available to adults who have not earned a secondary diploma or its equivalent.

Through the Adult Literacy program, Kirkwood offers classes to English language learners. Instruction focuses on the development of English skills in life and work contexts. Classes are offered in Cedar Rapids, Iowa City and Washington. Volunteer tutors may also be available to learners who are unable to attend the classes.

High School Completion Programs

Students 16 years of age or older who have not completed their high school education may be eligible to earn a diploma through Kirkwood's High School Completion program. More than 50 independent study, online and structured courses are offered at Kirkwood learning centers located in the seven-county service area.

Computers are available to provide students with course work, enrichment activities and vocational experience. Students are also encouraged to take interest and career assessment inventories, tour program facilities on the main campus, and explore other career and academic resources as part of their high school experience.

Preparation and testing for the General Educational Development (GED) diploma are also available at Kirkwood learning centers. Students may study independently, work with a teacher or tutor, use GED instructional software, and view instructional videos to learn or review GED competencies.

High School Distance Learning (HSDL) Program

Students unable to attend a Kirkwood learning center can earn high school credits or transfer credits through

the High School Distance Learning program. Often, students who are enrolled in high school complete courses through this program to meet the requirements of their local high school diploma. Students can also complete distance learning courses and earn the Kirkwood Adult High School diploma. Courses are available in packet and online formats.

Career Edge Academies

www.kirkwood.edu/careeracademies

Students from area high schools develop job skills, explore careers and earn college credit by participating in Career Edge Academies. Academies are offered in:

- Auto Collision
- Automotive Technology
- Business and Finance
- Computer Programming
- Education and Human Services
- Engineering: Project Lead the Way
- Geospatial
- Graphic and Media Communication
- Health Science: Dental
- Health Science: EMT-B
- Health Science: Patient care
- Health Science: Pharmacy Technician
- Local Area Networking (LAN)
- Metal Fabrication
- Software Specialist (ISM)
- Welding

Career Edge Academies are dual credit courses, meaning students earn both high school and college credit, offered at no charge to students' families.

High School Articulation Agreements

Kirkwood has articulation agreements with more than 100 area school districts that give high school students the opportunity to earn college credit and advanced placement in Applied Science programs at Kirkwood. This program strengthens relations between high

school and college faculty and provides a smoother transition for students planning to attend Kirkwood.

Postsecondary Enrollment Options Act (PSEO)

The Postsecondary Enrollment Options Act allows high school students to enroll part-time at Kirkwood and earn both high school and college credits. The act has a dual purpose: to promote rigorous educational pursuits and to provide a wider variety of options for high school students.

High school juniors and seniors in public or accredited nonpublic schools who have not fulfilled graduation requirements are eligible for classes. Ninth or 10th grade students in public or accredited nonpublic schools who are identified as "talented and gifted" are also eligible. Students' districts must certify their eligibility to Kirkwood, and they must meet Kirkwood's admission requirements.

Students enrolled in the program may take one or more classes at Kirkwood. However, students may not take "comparable" courses: courses offered by the school districts or accredited nonpublic schools they attend, or the school districts in which the accredited nonpublic schools they attend are located.

Corrections Education

Through a contract with the Iowa Department of Corrections, Kirkwood manages the educational programs offered to offenders at the Anamosa State Penitentiary and the Iowa Medical and Classification Center in Oakdale. Literacy, ESL, GED preparation and testing, and life skills are the instructional priorities.

Student Life & Services

Student Life

Cedar Rapids Main Campus
104 Iowa Hall
319-398-5578

Iowa City Campus
148 Credit Center
319-887-3947

Student Clubs and Organizations

More than one-third of all full-time students belong to a campus club or organization. Clubs are formed through academic programs and special interest groups and are given formal recognition by the Student Senate. Organizations are local extensions of nationally-affiliated organizations, such as the Business Professionals of America, and student members receive funding from Student Life to attend conferences or other special events. Faculty or staff serve as advisors to both groups. Each club or organization elects officers and a student senator. Information about clubs and organizations may be obtained through Student Life.

Student Senate

Student Senate is the official representative body for Kirkwood students. Senate objectives are to:

- Promote organized student expression.
- Encourage interest in college affairs and activities.
- Make college administrators aware of student needs, opinions and attitudes.
- Develop and promote activities to enrich the social, cultural and academic lives of Kirkwood students.

Senators are elected by members of approved clubs and organizations and by application (members-at-large) to Student Life.

Social and Special Events

Student Life coordinates special campus activities based on recommendations from Student Senate and KAPS (Kirkwood Activities, Programs and Services). Some of these events take place during activity hour (11 a.m. to 12 p.m.) while others, such as dances, take place in the evening. These events are open to all Kirkwood students and their guests. Information on upcoming activities can be obtained through Student Life.

Kirkwood EagleCard

122 Iowa Hall
319-398-5680
www.kirkwood.edu/eaglecard

The EagleCard is the official Kirkwood Community College identification card. It is *required* for the following:

- Buying books at the Kirkwood bookstores.
- Selling books back at book buy-back time.
- Checking out books from the Kirkwood library.
- Admittance to the Kirkwood Rec Center, computer labs, and athletic and entertainment events.

A student has the option of depositing money on his/her EagleCard account and using it as a debit card. The EagleCard is accepted at on-campus vending machines, food services, Kirkwood Bookstores, Kirkwood C-store and select off-campus vendors.

Students can obtain their EagleCard at the EagleCard office or the Rec Center, both at the Cedar Rapids campus; the Iowa City Bookstore; or any county center office.

Bookstores

Cedar Rapids Main Campus
Benton Hall
319-398-5469

Iowa City Campus
1st floor Credit Center
319-887-3640

In addition to providing textbooks for all Kirkwood courses, the Cedar Rapids campus bookstore also carries supplies, Kirkwood logo clothing, gift items, paperback books, magazines, greeting cards, videocassette tapes, CDs, and computer software and supplies. The bookstore also offers fax and copying services.

The Iowa City bookstore, located in Kirkwood's Iowa City Credit Center, carries textbooks for all courses held in Iowa City. Other items include clothing, magazines, software and school supplies.

At the end of each semester, students can sell back previously purchased books. A representative from a used book distributor is on campus to handle the book buy back.

Bus Service

Bus transportation throughout Cedar Rapids and to Kirkwood is provided by the city bus company. The bus stops north of the bookstore, along the roadway at the north end of the student lot in front of Linn Hall, at Washington Hall and at East Campus. Special rates are available to Kirkwood students. Bus schedules and student bus tickets are available in the Linn Hall lobby at the information booth. Monthly bus passes are also available.

The Iowa City Campus is accessible by Iowa City Transit bus service, and monthly passes are available at the bookstore.

Student Life & Services

Kirkwood Kids Child Care Center

319-398-1256

Mon.-Fri. 7:30 a.m. to 5:30 p.m.

Kirkwood Kids provides child care that is licensed by the state of Iowa and accredited by the National Association for the Education of Young Children. Child care services are available to Kirkwood students, Kirkwood staff and the community. The center is designed to provide care in a warm, nurturing learning environment that is child-centered. Kirkwood students may use the center on a full- or part-time basis, and are not limited to using the center only while attending classes; however, availability is limited with waiting lists in place for all classrooms. The center serves children aged six weeks to five years, year round, and also has an 11-week summer program for school-age children up to 12 years. Discounted rates are available for Kirkwood students and staff.

Food Service

319-398-7189

C-Store

Cedar Rapids Main Campus

1st floor Benton Hall

319-398-5542

Offers Starbucks coffees, Freshens Smoothies, bottled beverages, candy, chips, and grab-n-go sandwiches and salads.

Sammy's Kafé

Cedar Rapids Main Campus

2nd floor Iowa Hall

319-398-5469

Mon.-Thurs. 7 a.m. to 6:30 p.m.

Fri. 7 a.m. to 2 p.m.

Summers: Mon.-Fri. 8 a.m. to 1 p.m.

Sammy's features a variety of hot and cold sandwiches and entrees. Deli selections, soup and salad bar, grilled

sandwiches, and entrees are available from 10:30 a.m. to 2 p.m. Available all day long are ice cream novelties, cookies, chips, snacks, coffee, cappuccino and assorted desserts.

The Class Act Restaurant

Cedar Rapids Main Campus

Mansfield Center Atrium

319-398-5468

Fall and spring semesters

Mon.-Thurs. 11 a.m. to 1 p.m.

The Class Act is a full-service restaurant operated by students in the Restaurant Management and Culinary Arts programs. Reservations are recommended for groups of four or more.

In the fall of 2010, the Class Act moves to the Hotel at Kirkwood Center, the most comprehensive teaching hotel at any community college in the nation. The Hotel features 71 rooms, complete food and beverage service, indoor and outdoor dining venues and direct access to conference space at the Kirkwood Center for Continuing Education.

Guido's Deli on Campus

Iowa City Campus

1st floor Credit Center

Mon.-Thurs. 8 a.m. to 6 p.m.

Fri. 8 a.m. to 2 p.m.

Adjacent to the student commons, Guido's offers hot and cold breakfast items, soups, salads, sandwiches, potatoes, pizza, drinks, cookies and more.

Vending

Vending machines are conveniently located on the second floor of Iowa Hall and in the Linn Hall lobby.

Iowa City Campus vending machines are located in the Credit Center and Annex lobbies.

Campus Health Services

Cedar Rapids Main Campus

132 Iowa Hall

319-398-5588

Mon.-Fri. 8 a.m. to 5 p.m.

Iowa City Campus

146 Credit Center

319-887-3949

(call for hours)

The Campus Health office is staffed by a registered nurse and paramedic under direction of a consulting physician. Services include emergency treatment of illness and injury and assistance in obtaining services of local physicians or agencies. Over-the-counter drugs, TB testing and allergy shots (with a doctor's order) are available. The student must cover the cost of hospitalization, doctor's fees, prescription medicine, X-rays and laboratory fees.

Educational health programs on substance abuse, nutrition, infectious disease and sexual awareness are presented by Campus Health. Confidential counseling on a variety of health-related problems is also offered.

Health insurance is recommended for students. While the college does not offer an insurance plan, information on insurance is available from Campus Health.

Housing

Cedar Rapids Main Campus
104 Iowa Hall
319-398-7647
sharon.blanchard@kirkwood.edu

Iowa City Campus
319-887-3947

www.kirkwood.edu/housing

Kirkwood does not provide on-campus housing, but more than 4,000 students live in privately-owned apartments near the campuses. The housing office provides information, coordinates apartment showings, offers assistance with roommate issues and serves as a liaison between apartment managers and student tenants. Apartment showings are available by appointment.

Parking

All cars parked on the Kirkwood campus are subject to regulations imposed by the college. These regulations are published each year in the student handbook, which is available at the Student Life office in Iowa Hall, the Linn Hall information booth and at www.kirkwood.edu/handbook.

Security Services

319-398-5561

In an effort to provide the safest possible environment, Kirkwood provides full-time security officers and outside lighting on all roads, parking lots and walkways on campus, 24-hours-a-day, every day of the year.

Campus security personnel may be contacted through any college office and the Facilities office, Monday through Friday, 7 a.m. to 5 p.m., at 319-398-5561. After 5 p.m. and on

weekends, campus security may be contacted at one of the following phone numbers:

- 319-398-1286 Office
- 319-533-5767 Cell
- 319-389-1774 Security or emergency cell phone

Emergency phones are located at various locations around campus.

Campus security is available to assist students and staff by starting stalled vehicles, unlocking vehicles (non-electric locks) and providing escorts from campus buildings to parking upon request.

Campus security has the authority to ticket illegally-parked vehicles, direct traffic and detain people involved in any criminal activities (on campus) until local law enforcement agencies can be notified.

Additional information on annual crime statistics and emergency procedures are published in the student handbook, available at the Student Life office, 104 Iowa Hall, and the Linn Hall information booth.

Intercollegiate Athletics

319-398-4909

As a member of the National Junior College Athletic Association and the Iowa Community College Athletic Conference, Kirkwood offers six intercollegiate sports:

- Men's basketball
- Women's basketball
- Men's baseball
- Women's softball
- Men's golf
- Women's volleyball

Kirkwood teams rank high in the NJCAA polls and are strong competitors at national tournaments.

Recreation/Fitness

Cedar Rapids Main Campus
Michael J Gould Recreation Center
319-398-5596

Iowa City Campus
161 Credit Center
319-887-3658, ext. 3707

The 43,500-square-foot Michael J Gould Kirkwood Recreation Center features the latest in cardio and strength training equipment, three full-size basketball courts, a 200-meter walking/jogging track, an aerobics/fitness room, shower facilities, and a lounge area with computer ports, big-screen TV, pool table and ping pong table.

Intramural Sports

All currently-enrolled students and staff can take part in intramural and recreation/fitness programs. Activities include flag football, volleyball, basketball, softball, soccer, tennis, aerobics classes, fitness assessments and seminars, and many other special events and activities.

Johnson Hall houses athletic facilities and offices, including two basketball courts, a weight room, two racquetball courts, a fitness center, locker rooms and the athletic department offices.

Outdoor recreation areas include a walking track, baseball and softball fields, basketball court, sandpit volleyball court, four tennis courts, main soccer field and intramural/recreation fields.

Continuing Education & Outreach

Continuing Education & Training Services

319-398-5529

www.kirkwood.edu/ce

In keeping with its emphasis on lifelong learning and training development, Kirkwood offers continuing education classes and workshops for personal growth, recreation, certification and skills development.

Kirkwood sponsors these classes on the Cedar Rapids campus and throughout the seven-county service area, in cooperation with local school districts. Five sessions of Continuing Education classes are offered during the year.

Kirkwood draws on the skills and expertise of business, industrial and cultural leaders for its Continuing Education teaching staff. A free catalog with course descriptions is available prior to the opening of each session.

Supplementary Vocational Classes

More than 65 percent of Kirkwood's Continuing Education students enroll in classes to upgrade their careers, advance in their positions or obtain job-seeking skills. These supplementary vocational classes are offered at business and industrial sites, on the main campus, at Kirkwood centers or at local high schools. Some examples of these classes are:

Health

- Nurse aide
- Activity coordinator
- Rehabilitative aid
- Nurse aide skills refresher
- Food service training
- Administration of non-parenteral medications for CNA
- CPR
- Medic first aid

- First responder
- EMT-B
- Iowa paramedic
- Paramedic specialist
- Pharmacy technician
- Phlebotomy technician
- Spanish for medical personnel
- Dependent adult abuse and mandatory reporting
- Limited duty radiographer
- Continuing Education offerings for multiple health care professions meeting requirements for renewal

Industrial Technologies

- Electronics
- Electricity
- Air conditioning
- Auto body
- Computer-aided drafting
- Machine shop
- Welding
- Plumbing
- Hydraulics
- Mechatronics

Business Skills/Employee Development

- Finance and accounting
- Grant writing
- Business etiquette
- Coaching
- Business writing skills
- Communication skills
- Customer service
- Volunteer management
- International business
- Presentation success
- Legal issues

Computer Training/Certification

- Beginning computer concepts
- Word processing skills
- Spreadsheets
- Databases
- Desktop publishing and presentation programs
- Introduction to programming
- Programming languages
- Communication programs
- Introduction to PC hardware
- Introduction to local area networks

- Internet programs
- Advanced concepts and certifications in MSCE, MCSA, A+, Net+ and CIW

Family/Home/Finance

- Culinary
- Child care
- Family relations
- Financial planning
- Communication skills
- Goal setting

Seminars and Workshops

Business, industries and local governments have a variety of needs for employee training, seminars and workshops. Kirkwood designs programs and activities to meet these needs. Current program areas include:

- Computer skills training
- Business management
- Leadership training
- Customer service training
- American management
- Association certificate programs
- Small business training
- Pre-retirement planning
- Re-licensing for nursing, allied health, real estate, insurance, cosmetology, food service training, long-term care, foster parent training, human services professionals, quality control training.

Certificate Programs

For individuals and professionals looking to increase their value in the workplace or to facilitate a career change, a variety of continuing professional education certificate programs are offered in the areas of Business/Information Technology, Manufacturing/Industrial Technologies, Transportation and Health Occupations.

Leisure/Enrichment

Surveys indicate that personal interest, growth and knowledge motivate two out of every five students enrolled in Kirkwood Continuing Education programs. Most of these students enroll in such classes as:

- Stained glass, one stroke painting, knitting
- Aerobic exercise
- Ballroom dance
- Foreign language
- Dog obedience
- Driver education
- Coaching authorization
- Youth programs

KICK Summer Camps

The Kirkwood Interactive Camps for Kids (KICK) summer program offers a wide variety of camp sessions focusing career exploration, adventure and fun. KICK summer camps offer quality learning experiences specifically for youth entering grades four through nine.

Semi-Trailer Truck Driving Program

The semi-trailer truck driving program helps prepare men and women for employment in the trucking industry. The entry-level curriculum includes classroom instruction, driving range instruction and supervised practical experience driving on highways, the interstate and in towns and cities.

Program graduates are awarded a certificate, offered placement assistance and are prepared to take the Commercial Driver's License exam. This program can be completed in as little as five weeks.

Learn at Home

As students continue to demand education in alternative learning formats, Continuing Education has developed a variety of courses offered through home study, correspondence and Internet-delivery formats. Students enroll in classes such as:

- Introduction to Excel
- Creating Web pages
- Accounting fundamentals
- Beginning writer's workshop
- Conversational Spanish
- An overview of aging
- Introduction to apprenticeship
- Diabetes: pathophysiology and treatment
- Grieving and long-term illness

Kirkwood Training and Outreach Services

319-398-5623
www.kirkwood.edu/ktos

Kirkwood Training and Outreach Services (KTOS) provides business counseling and training services to help companies achieve world-class performance through improved business practices, a highly-skilled workforce and appropriate use of technology. The services are focused on people, processes and technology. This effort brings together considerable resources from Kirkwood, the community and the state of Iowa. Companies can receive services through workforce development programs, process improvement consultation, small business performance consultation, performance excellence and strategic partnerships.

Training

Kirkwood Training Services provides a broad spectrum of employee training and education programs covering a variety of key skills areas including:

- Essential skills
- Health/safety programs
- Leadership skills
- Lean practices
- Industrial/technical training
- Transportation programs

Kirkwood Training Services draws upon a nationwide network of resources to provide updated training to individuals and work teams. On a partnership and consultation basis, Kirkwood Training Services can readily customize these training and education programs to best meet each client's needs.

Outreach Services

A full range of services and facilities are available to help businesses of all sizes achieve success. KTOS is focused on establishing strategic partnerships, providing total solutions and adding value to clients.

Kirkwood Center for Continuing Education (KCCE)

319-398-7630
www.kirkwood/kcce

The Kirkwood Center for Continuing Education offers the Cedar Rapids/Iowa City Corridor a unique business and education venue. The beautifully-appointed and creatively-designed interior complements its state-of-the-art instructional design, creating a flexible environment perfect for conferences, retreats, seminars, meetings or other special events. Its design supports the region's increasing demand for continuing education and opportunities for learning.

Kirkwood History

Kirkwood is a publicly-supported college that serves Benton, Cedar, Iowa, Johnson, Jones, Linn and Washington counties in eastern Iowa. Kirkwood operates under the regulations of the Iowa Department of Education and is governed by a publicly-elected, nine-member board of trustees.

In January 1965, a steering committee conducted a study to establish a vocational school to serve parts of eastern Iowa, then known as Area X. Soon after this local study, the Iowa General Assembly approved legislation that created a system of community colleges throughout the state.

On July 1, 1966, Kirkwood was officially established, originally called "Area X Community College." The college immediately assumed responsibility for the federally-funded vocational/technical programs the Cedar Rapids Community School District had provided since 1964. The college added the Arts and Sciences, Student Services and Community Education divisions a year later. In 1969, the college board of trustees decided on a new name—"Kirkwood Community College," to honor Samuel J. Kirkwood, Iowa's governor during the Civil War years.

In 1982, Kirkwood became a member of the League for Innovation in the Community College, a consortium of 19 of the nation's finest two-year colleges.

Kirkwood awards Associate of Arts and Associate of Science degrees that transfer to four-year colleges and universities. Graduates in Applied Science and Technology programs are prepared to enter specialized technical careers.

Kirkwood Community College is accredited by the Iowa Department of Education and by The Commission on Institutions of Higher Education of The North Central Association of Colleges and Schools (NCA). The NCA is located at 30 North LaSalle Street, Suite 2400, Chicago, IL 60602-2504 and can be reached at 800-621-7440 or www.ncacihe.org. Individual college programs are accredited by appropriate professional associations within their respective fields.

Legal Basis of the College

The law under which Kirkwood was established and continues to operate, Section 280A in the Code of Iowa, states in part that:

Area community colleges offer, to the greatest extent possible, educational opportunities and services in each of the following areas:

1. The first two years of college work including pre-professional education.
2. Vocational and technical career training.
3. Programs for in-service training and retraining of workers.
4. Programs for high school completion for students of post-high school age.
5. Programs for all students of high school age who may best serve themselves by enrolling for vocational and technical training while also enrolled in a local high school, public or private.
6. Student personnel services.
7. Community services.
8. Vocational education for persons who have academic, socioeconomic or other disabilities which prevent them from succeeding in regular vocational education programs.
9. Training, retraining and all necessary preparation for productive employment of all citizens.
10. Vocational and technical training for persons who are not enrolled in high school and who have not completed high school.

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ROUTES TO KIRKWOOD MAIN CAMPUS

Iowa Equestrian Center
319-398-7107

Kirkwood Continuing Education
319-398-5529

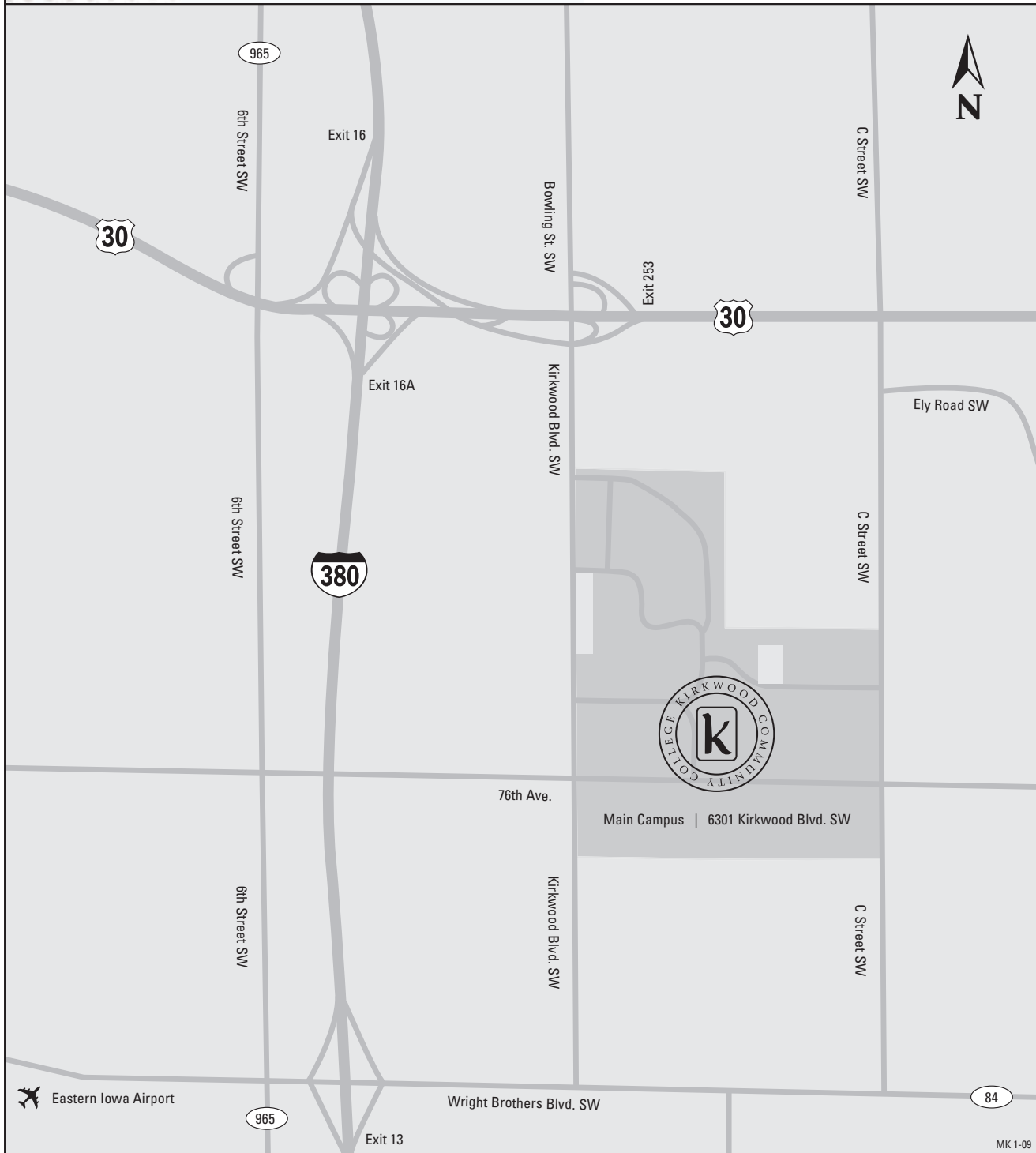
Johnson Hall/Athletics
319-398-4909

Michael J Gould Recreation Center
319-398-5596

Admission Services
319-398-5517 or 800-332-2220

Kirkwood Bookstore
319-398-5469






Campus Security
319-389-5561 or
after 5 p.m. and weekends
319-389-1774





KIRKWOOD MAIN CAMPUS LOCATOR MAP

Admissions, Iowa Hall	18
AEGON USA	12
Animal Health Technology	31
Arts & Theatre Annex	23
Automotive Technology	4
Automotive Collision Repair	5
Ballantyne Auditorium, Iowa Hall	20
Baseball/Softball Fields	7
Benton Hall	13
Bookstore, Benton Hall	14
Building 32 ICN 32A & 32B	25
Campus Security	11
Campus Health	19
Cedar Hall	16
Kirkwood Center for Continuing Education	34
Central Receiving	30
Child Care Center (Kirkwood Kids)	3
Community Training and Response Center	6
Diamond V Mills	31
Facilities and Security	11
Heritage Agency on Aging West	24
Heritage Agency on Aging East	26
Iowa Equestrian Center	36
Horticulture/Floral Careers	28
Iowa Hall	18
Johnson Hall	10
Jones Hall	8
Kirkwood Hall	17
Library	15
Linn Hall	9
Mansfield Center	21
Mansfield Swine Education Center	33
Nielsen Hall	22
Raptor Center	32
Michael J Gould Recreation Center	1
RuffaloCODY	2
Tippie Beef Education Center	35
Transportation and Safety Training	27
Washington Hall	29

-  COMPUTER LAB
-  EMERGENCY PHONES
-  RESTRICTED PARKING
-  STAFF PARKING
-  NOT KIRKWOOD PROPERTY





Kirkwood Community College
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