2014-2015
Kirkwood
Earn College Credit in High School

PROGRAMS OF STUDY
Jones Regional Education Center
www.kirkwood.edu/earncredit
January 2014

Dear Students, Parents and Counselors,

While in high school, students can earn dual credit by enrolling in courses that meet high school requirements and satisfy college credit through Kirkwood Community College. Opportunities include Career Academies (offered at your high school or at the new Kirkwood Jones Regional Education Center), classes on site at your high school, as well as classes offered online or via the Iowa Communications Network (ICN).

As students begin their scheduling process, please take time to discuss the Kirkwood Community College dual credit classes available to high school students. We’ve recently redesigned a portion of our website to include detailed information. You can access that information at www.kirkwood.edu/jrec (just search “earn college credit in high school”).

Kirkwood has recently established a historic partnership with six area high schools in an effort to provide every high school student an opportunity to further challenge themselves in cutting-edge, career-based curriculum, preparing them for college or career, all while in high school. Our partnership consists of Monticello, Anamosa, Midland, Central City, Springville, Maquoketa Valley, Cascade and potentially more high schools. We believe this partnership not only rounds out their high school experience, but better prepares them for college, and the best part is that it’s paid for by the high school.

Please feel free to contact me directly if you have any questions.

Sincerely,

Craig Stadtmueller
Career Development Coordinator
Craig.Stadtmueller@kirkwood.edu
319-465-2375
WHAT ARE YOU WAITING FOR? DON’T MISS OUT!!!
Enrolling is as easy as 1….2….3!

Step 1.
Review your four-year plan. Determine where you are with graduation and college requirements. Contact your guidance counselor or Craig Stadtmueller at Kirkwood Jones Regional Education Center if you need assistance.

Step 2.
Complete Jones Regional Pre-Registration Form no later than 3/1/14. Preregistrations will be reviewed by your high school and Kirkwood Community College for eligibility and approval.

Step 3.
Apply to www.kirkwood.edu/apply (fill out “Earn College Credit While in High School”) and attend the required orientation.

Awarding of Credit/Grades

- **HIGH SCHOOL CREDIT:** Students with a passing grade will receive credit from their high school. Individual school districts determine whether their high school credit will be awarded to meet high school core curriculum requirements or elective credits.
- **COLLEGE CREDIT:** Students will receive college credit from Kirkwood Community College. The grade earned in this course will be reflected on the student’s official college transcript.
- **TRANSFERRING CREDIT:** Student’s not planning to attend Kirkwood after high school graduation should plan to include this transcript as part of their application process to other colleges or universities. www.kirkwood.edu/transcript. If you plan to attend a private or college out-of-state, please contact the college directly to see how your credits will transfer.

As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a Social Security Number as part of the secure online college application process to create the official student record.
How do I know if I’m ready for college level coursework?

The following profile should offer a guide to students, parents & counselors in selecting students for college credit courses.

**Senior Year Plus Requirements**

As defined by the Iowa Department of Education, Senior Year Plus is an important part of high school reform efforts in Iowa. Through these programs, high school students are provided rigorous opportunities for advanced learning. To this end, Kirkwood partners with Area X school districts to prepare students to learn essential 21st century skills and earn college credit through postsecondary learning options, concurrent enrollment, and Career Edge Academies.

Iowa law requires students, instructors, and institutions to meet certain criteria to be eligible to participate in Senior Year Plus programming.

In order to participate in the Arts and Sciences Academy students must demonstrate proficiency in each of three academic areas- Math, Science, and Reading as indicated by ITED testing.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Fall</th>
<th>Midyear</th>
<th>Spring</th>
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<tbody>
<tr>
<td>10th</td>
<td>Math - 252 Science - 253 Reading - 252</td>
<td>Math - 257 Science - 258 Reading - 257</td>
<td>Math - 257 Science - 258 Reading - 257</td>
</tr>
</tbody>
</table>

If a student is not proficient in one or more of the content areas, the school board may establish alternative but equivalent qualifying performance measures. See page 10-12 of Senior Year Plus guidelines for additional information.

Participation in all other Career Academies is contingent upon completion of the COMPASS test before registration. Satisfactory placement scores for Reading, Writing, and Math as indicated by ACT scores are sufficient for participation in Career Academies.
Additional Indicators of Success

Academic Skills or Standing
• Satisfactory attendance record
• Completes all assignments by due date, including assigned reading
• Demonstrates self-motivation as a learner
• Applies classroom learning to cases, observations, and service learning
• Has a minimum GPA of 2.5 in academic courses

Personal Traits/Dispositions
• Demonstrates respect for others
• Exhibits intellectual curiosity and openness to new ideas
• Works well as part of a team
• Demonstrates honest and ethical decision-making

Maturity
• Demonstrates self-advocacy & communication skills (communicates needs)
• Successfully manages academic, work, extracurricular & other commitments
Preregistration Information for Career Academies

Jones Regional Center
ACE: (ARCHITECTURE, CONSTRUCTION AND ENGINEERING) ACADEMY

College credits earned: up to 12.0

Why College Credit in High School?
… Find your passion
… Get a head start
… Experience college-level expectations with rock star teachers
… Earn free college credit
… Why not!

Experience
Unique, hands-on laboratory and classroom experiences in basic architecture and construction skills, with support from industry experts, including jobsite tours.

Outcome
Development of entry-level skills and knowledge for those who want to pursue one of the many careers available in the construction industry.

Career Focus
- Immediate employment opportunities within the field.
- Prepared for further training in the architecture and construction industry.
- Potential for stronger competitiveness for application into local apprenticeship programs.

The Kirkwood Architecture and Construction Management Academy can lead students to college certificates, diplomas, associates, bachelors and graduate degrees. Examples of college majors include, but are not limited to: Architectural Technology, Carpentry, Construction, Masonry Technology, Plumbing Technology and Construction Engineering. If you’re planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at www.kirkwood.edu/fouryeartransfer

Iowa Average Salaries in Architecture and Construction Careers
Carpenter: $17.45/hour, $38,280
Construction Worker: $19.44/hour, $40,590
Electrician: $21.85/hour, $46,980
Brick Masons: $21.81/hour, $45,420
Architect: $33.62/hour, $72,780
More info can be found at: www.bls.gov

How to Get Started
- Talk to your parents and your guidance counselor.
- Go to www.kirkwood.edu/hiscreditapply

College credit courses included in this academy experience:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON-116</td>
<td>Architectural Plans and Specs</td>
<td>3</td>
</tr>
<tr>
<td>CON-190</td>
<td>Residential Construction Lab</td>
<td>3</td>
</tr>
<tr>
<td>CON-272</td>
<td>Commercial Construction Lab</td>
<td>3</td>
</tr>
<tr>
<td>EGT-460</td>
<td>Civil Engineering and Architecture</td>
<td>3</td>
</tr>
</tbody>
</table>

CON-116 Architectural Plans and Specs 3 college credits
Introduces the skills and methods for understanding and interpreting construction drawings and technical specifications for residential and commercial buildings.

CON-190 Residential Construction Lab 3 college credits
Provides introductory theory and lab experience in basic residential construction procedures and safety for those with little or no construction experience. Includes: foundation systems, floor systems, basic wall construction, roof systems, basic mechanical systems as well as interior and exterior finishes.

CON-272 Commercial Construction Lab 3 college credits
Provides introductory theory and lab experience in basic commercial construction procedures. Primary focus on foundational elements in a variety of construction systems including: foundations, wall systems, masonry, plumbing, HVAC, electrical and interior and exterior finishes. Project coordination and safety will be emphasized.

EGT-460 Civil Engineering and Architecture 3 college credits
Students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. In addition, students use 3D design software to design and document solutions for major course projects. Students communicate and present solutions to their peers and members of a professional community of engineers and architects. This course is designed for 11th or 12th grade students.

Need to Know
- Students receive credit from their high school and college credit from Kirkwood. The high school district pays the college tuition.
- The grade earned in this course is reflected on the student’s official college transcript. Students not planning to attend Kirkwood after high school graduation should plan to include this transcript as part of the application process to other colleges or universities. www.kirkwood.edu/transcript
- As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.
- Student safety equipment, tools and textbooks are provided the first day of class.
- Students are strongly encouraged to have completed or be concurrently enrolled in Algebra & Geometry.
- Graduating seniors who successfully complete all four courses may be eligible to apply for a summer internship coordinated through Building Pros of Eastern Iowa and/or the Iowa City Home Buildings Association.

www.kirkwood.edu/transcript
The Kirkwood Arts and Science Academy provides students with a jump start to earning an associates, bachelors and/or graduate degree. If you’re planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at the following link: www.kirkwood.edu/fouryeartransfer

Students should select to enroll in either Option A or Option B.

**OPTION A**

ENG-105 Composition I 3 college credits
Develops expository writing with emphasis on organization, supporting details, style, vocabulary and library research skills. Prereq: ENG-101 or qualifying placement score

ENG-106 Composition II 3 college credits
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. Prereq: ENG-105

PSY-111 Intro to Psychology 3 college credits
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. Prereq: qualifying college level reading placement score.

SPC-101 Fundamentals of Oral Communications 3 college credits
Studies basic communication theory and practice including communication process, interpersonal relationships, small group interaction and public speaking.

**OPTION B**

HIS-151 US History to 1877 3 college credits
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.

MUS-100 Music Appreciation 3 college credits
Includes study of elements and forms of music with attention to major historical periods and composers of historical significance and survey of indigenous music.

BIO-154 Human Biology 3 college credits
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.

ECN-120 Macroeconomics 3 college credits
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.

Need to Know…
- Students enrolled will receive credit from their high school and college credit from Kirkwood. The college tuition is paid for by the high school district.
- The grade earned in this course will be reflected on the student's official college transcript. Students not planning to attend Kirkwood after high school graduation should plan to
include this transcript as part of your application process to other colleges or universities. [www.kirkwood.edu/transcript](http://www.kirkwood.edu/transcript)

- As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.

### Program Details …
- Course offerings vary by location.
- Check with your guidance counselor to see if the Arts and Science Academy is at a location near you.

### How to Get Started …
- Talk to your parents and your guidance counselor.
- Go to [www.kirkwood.edu/apply](http://www.kirkwood.edu/apply) and click “Earn College Credit in High School.”
ADVANCED MANUFACTURING & ENGINEERING TECHNOLOGY ACADEMY

College credits earned: up to 22.0 (varies by program location)

Certification opportunities: National Institute for Metalworking Skills (NIMS) and MIG Welding Certifications

Why College Credit in High School?
… Find your passion
… Get a head start
… Experience college-level expectations
with rock star teachers
… Earn free college credit
… Why not!

Experience
Fast-paced, highly technical environment that blends hands-on skill development in a variety of areas to offer students a competitive edge in today's workforce.

Outcome
Students learn basic AutoCAD operations, general machine set-up, basic blueprint reading and math skills, as well as computer-based and hands-on training in code writing and CNC machine setup and operations.

Career Focus
Immediate entry-level employment opportunities, prepared for additional college training in today's high demand, high skill, high wage, advanced manufacturing or related fields.

Determine your interest in the advanced manufacturing field, build professional networking relationships.

Students should select to enroll in either Option A or Option B.

OPTION A

CAD-300  AutoCAD for Applied Engineering  2 college credits
Provides instruction in entry-level two-dimensional mechanical CAD drawing creation and editing, program customization, CAD standards, file manipulation/translation, and library creation/usage. Emphasizes mechanical drawings. Discusses basic computer hardware, software and operating systems. Students should be familiar with keyboarding and microcomputer applications. Prereq/Coreq: CSC-110 or IND-155 or department approval. Comments: Drafting, mathematics (Algebra II) or practical blueprint reading experience strongly recommended.

CSC-110  Introduction to Computers  3 college credits
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.

MFG-291  CNC Mill Operator (NIMS)  3 college credits
Introduces basic milling operations. Covers manual and CNC milling practices, tooling, machining practices and applied mathematics. Emphasizes teamwork, critical thinking and problem solving through hands-on experience and practical applications. This course aligns with NIMS (National Institute of Metalworking Skills) standards.

MFG-292  CNC Lathe Operator (NIMS)  3 college credits
Introduces basic lathe operations. Covers manual and CNC lathe turning practices, tooling, machining practices and applied mathematics. Emphasizes teamwork, critical thinking and problem solving through hands-on experience and practical applications. This course aligns with NIMS (National Institute of Metalworking Skills) standards.

MFG-287  Manual Press Brake Operations (NIMS)  3 college credits
Introduces basic lathe operations. Covers manual hydraulic down acting press brake practice, tooling, bending principles and applied mathematics. Emphasizes teamwork, critical thinking and problem solving through hands-on experience and practical applications. This course aligns with NIMS (National Institute of Metalworking Skills) standards.

The Kirkwood Advanced Manufacturing Engineering Technology Academy can lead students to college certificates, diplomas, associates and graduate degrees. Examples of college majors include, but are not limited to: CAD/Mechanical Engineering Technology, CNC Machining Technology, Welding, Manufacturing Technology and Industrial Engineering. If you're planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at http://www.kirkwood.edu/fouryeartransfer

Iowa Average Salaries in Advanced Manufacturing Careers
Machinist: $17.19/hour, $36,010
Welder: $16.22/hour, $34,360
CNC Machine Programmer: $21.98/hour, $45,030
More info can be found at: www.bls.gov

College credit courses included in this academy experience: courses subject to change based on college curriculum
OPTION B

WEL-370 Production MIG Welding 4 college credits
Teaches proper weld safety, machine setup and welding techniques for gas metal arc welding using short arc, spray and pulse metal transfer methods. Students perform American Welding Society compliant welds on stainless, aluminum, and mild steels in the flat and horizontal positions. AWS welder qualifications issued upon successful completion of this course.

WEL-360 Production TIG Welding 4 college credits
Focuses on proper weld safety, machine setup and welding techniques for gas tungsten arc welding. Students perform American Welding Society compliant welds on stainless, aluminum and mild steels in the flat and horizontal positions. AWS welder qualifications issued upon successful completion of course.

Need to Know
• Students receive credit from their high school and college credit from Kirkwood. The high school district pays for the college tuition.
• The grade earned in this course is reflected on the student's official college transcript. Students not planning to attend Kirkwood after high school graduation should plan to include this transcript as part of the application process to other colleges or universities. www.kirkwood.edu/transcript
• As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.
• Student textbooks, safety equipment and tools are provided on the first day of class.

How to Get Started
• Talk to your parents and your guidance counselor.
• Go to www.kirkwood.edu/hscreditapply
AUTOMOTIVE TECHNOLOGY ACADEMY

College credits earned: up to 11.0

Certification Opportunities: Snap-on Shopkey, Snap-on Meter, and Snap on Ethos Scan Tool

Why College Credit in High School?
… Find your passion
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… Earn free college credit
… Why not!

Experience
Unique, hands-on learning experience provided in a state of the art transportation lab; work side by side with industry certified technicians to develop high tech skills used in today’s automotive field.

Outcome
Students become skilled in real life bumper to bumper diagnostic and maintenance, with certification opportunities as a power user of Snap-on diagnostic tools.

Career Focus
Immediate entry-level employment skills and certifications, and prepared for further training in the field of automotive, repair, and other related fields.

The Kirkwood Transportation Academy provides students with a jump start to earning an associates and/or bachelors degree. Examples of college majors include, but are not limited to: Automotive Technology, Auto Collision, Welding, Diesel Agriculture and Diesel Truck programs. If you’re planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at the following link: www.kirkwood.edu/fouryeartransfer

Iowa Average Salaries in Transportation Related Careers
Automotive Service Technicians and Mechanics: $35,200
Auto Body Collision Repair Specialists: $38,500
More info can be found at: www.bls.gov

College credit courses included in this academy experience:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT-104</td>
<td>Introduction to Automotive Technology</td>
<td>3</td>
</tr>
<tr>
<td>MAT-715</td>
<td>Industrial Math I</td>
<td>3</td>
</tr>
<tr>
<td>AUT-611</td>
<td>Automotive Electricity</td>
<td>5</td>
</tr>
</tbody>
</table>

AUT-104 Introduction to Automotive Technology
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.

MAT-715 Industrial Math I
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.

AUT-611 Automotive Electricity

Need to Know …
- Students enrolled will receive credit from their high school and college credit from Kirkwood. The college tuition is paid for by your high school district.
- The grade earned in this course will be reflected on the student’s official college transcript. Students not planning to attend Kirkwood after high school graduation should plan to include this transcript as part of your application process to other colleges or universities. www.kirkwood.edu/transcript
- As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.
- To meet NATEF standards, students will be required to meet strict attendance guidelines to comply with Kirkwood’s certification. Information will be shared during the first day of class.
Automotive Technology Academy

- Students must have completed, or concurrently enrolled, in Algebra I to take this academy.
- Student textbooks, required tools and safety equipment will be provided on the first day of class.

Program Details
- In most program locations, students will meet Monday-Friday for a minimum of 1.5 hours each day for the entire school year.

- Check with your guidance counselor to see if the Transportation Academy is at a location near you.

How to Get Started
- Talk to your parents and your guidance counselor.
- Go to www.kirkwood.edu/apply and click “Earn College Credit in High School.”
The Kirkwood Graphics and Media Communication Academy provides students with a jump start to earning an associates, bachelors and/or graduate degree. Examples of college majors include: Graphic Communication Technology, Web Design, Graphic Design. Careers might include: advertising, marketing, printing and publishing companies, and web design. If you're planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at the following link: www.kirkwood.edu/fouryeartransfer

Iowa Average Salaries in Graphic and Web Design
Graphic Designer: $38,730  
Web Designer: $53,462  
Web Developer: $62,837  
More info can be found at: www.bls.gov

Why College Credit in High School?
… Find your passion  
… Get a head start  
… Experience college-level expectations with rock star teachers  
… Earn free college credit  
… Why not!

Experience
Graphic design careers cover all ends of the creative spectrum. Explore cutting edge technology and software used by today's commercial artists.

Outcome
All graphic design jobs require attention to detail, design, problem solving skills, and up-to-date use of the latest software. Students will build on their creative foundational art skills to explore a new level of creativity, layout and design fundamentals, and produce outstanding digital artwork.

Career Focus
Immediate employment opportunities using Adobe Photoshop, InDesign and Illustrator.

College credits earned: up to 12.0 (varies by program location)

College credit courses included in this academy experience:

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<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ART-186 Digital Photography</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>GRA-127 Illustrator I</td>
<td>3</td>
<td>This course introduces Adobe Illustrator and its applications in graphic communication. Class activities include projects to explore the 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 to set up color for reproduction, and also learn to save and manage files, and how files interact with page layout and paint (raster) programs.</td>
</tr>
<tr>
<td>GRA-131 Digital Layout</td>
<td>3</td>
<td>This course provides working knowledge of the CS3 Adobe InDesign page layout program and its use in creating effective page layouts combining graphics and type. Topics covered include: 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 flyers, newsletters, and other printed materials.</td>
</tr>
<tr>
<td>GRA-140 Digital Imaging</td>
<td>3</td>
<td>This course 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 other creative applications of Photoshop.</td>
</tr>
</tbody>
</table>

Need to Know …
- Students enrolled will receive credit from their high school and college credit from Kirkwood. The college tuition is paid for by the high school district.  
- The grade earned in this course will be reflected on the student's official college transcript. Student's not planning to
attend Kirkwood after high school graduation should plan to include this transcript as part of your application process to other colleges or universities. www.kirkwood.edu/transcript

• As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.

Program Details
• Course offerings vary by location.
• Check with your guidance counselor to see if the Graphics Academy is at a location near you.

How to Get Started
• Talk to your parents and your guidance counselor.
• Go to www.kirkwood.edu/apply and click “Earn College Credit in High School.”
HEALTH SCIENCE: PATIENT CARE ACADEMY

Total college credits earned: 12.5

Certification opportunities: State of Iowa Nurse Aide Certification Exam (CNA), First Aid and American Heart Association CPR

Iowa Average Salaries in Health Care Careers
C.N.A.: $12/hour, $24,330
LPN: $36,820
RN/BSN: $53,300
Physical Therapist: $77, 540
Physician Assistant: $85,880
Physician/Surgeon/Other: $196,230
More info can be found at www.bls.gov

Why College Credit in High School?
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… Experience college-level expectations
… with rock star teachers
… Earn free college credit
… Why not!

Experience
Unique, hands-on learning experience providing care for patients in a clinical setting. Work side-by-side with health care professionals in a health care facility and fulfill prerequisites for many college health programs.

Outcome
Perform basic nursing skills through hands-on, direct patient care. Examples include: assessment of vital signs, such as taking blood pressure, temperature and respiration; performing basic hygiene and transfer skills (bathing, dressing and feeding) and learning to communicate with residents and the health care team.

Career Focus
Immediate employment opportunities for CNA certification, prepared for a wide-variety of college majors focusing on patient care fields.

Determine if you are ready for a career in the health care field, build professional networking relationships.

The Kirkwood Patient Care Academy Program can lead students to college certificates such as diplomas, associates, bachelors and graduate degrees. Examples of college majors include, but are not limited to: Nursing, Athletic Training, Pre-Med, Exercise Science, Physical Therapy, Occupational Therapy, Radiology and Respiratory Therapy.

If you’re planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at www.kirkwood.edu/fouryeartransfer

College credit courses included in this academy experience:

HSC-205 Exploration of Healthcare Careers 3 college credits
Explains all aspects of health care and careers in the field. Focuses on understanding basic wellness, and growth and development of the human being. Includes field trips to an emergency room at a local hospital, a surgical center, a free healthcare clinic, a dental clinic, an outpatient OT/PT/speech center, administrative offices at a nursing home and a laboratory. Covers the past, present and future of health care. Introduces key career cluster terms and career options within each career cluster. Provides career information, including education required for each area, educational costs to attain a degree versus expected career earnings, job descriptions, case studies and skills needed for specific career areas. Results in CPR for the Healthcare Provider and Basic First Aid certification upon successful completion.

HSC-115 Medical Terminology 4 college credits
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.

HSC-107 Professionals in Health 2 college credits
Learn the skills and characteristics expected for professional preparation and employability. Explore the health industry, see current trends and issues, and study the work environment as it relates to health and safety regulations.

HSC-168 Nurse Aide 3.5 college credits
Provide safe, effective resident care by mastering basic care giving skills and concepts. This class includes 30 hours lecture, 15 hours lab and 30 hours clinics per state guidelines.
Health Science: Patient Care Academy

Need to Know …
- In order to be awarded the 75-hours nurse aide completion certificate, you must meet standards imposed by the state of Iowa. Absenteeism and tardiness may result in dismissal from the program. Students can only miss 10 percent of the entire class (7.5 hours) to be eligible for clinics and the certificate. In order to move into the clinical experience in February or March, you must have a 79 percent or higher in the nurse aide course, and meet guidelines determined by the state of Iowa and the course instructor.
- Textbooks are provided to students.
- You will be required to purchase a scrub uniform (approximate cost $35-40) during the first semester of class.
- You are required to have a current physical (sports physicals are accepted) and immunization records on file with the Kirkwood Community College campus nurse by Dec. 31 of the year you are enrolled. Per state requirements, all health care facilities require criminal background checks, including students in a clinical setting. More information will be shared at the required orientation.
- Health Science: Patient Care Academy students may have the opportunity to participate in Health Occupations Students of America (HOSA), which is a national student organization endorsed by the U.S. Department of Education and the Health Science Education Division of ACTE. HOSA’s two-fold mission is to promote career opportunities in the health care industry and to enhance the delivery of quality health care to all people. HOSA provides a unique program of leadership development, motivation and recognition exclusively for secondary, postsecondary, adult and college students in Health Science Education programs.

Program Details
- In most program locations, you will meet for 1.5 hours, Monday-Friday, for the entire school year.
- Check with your guidance counselor to see if the Patient Care Academy program is at a location near you.

How to Get Started
- Talk to your parents and your guidance counselor.
- Go to www.kirkwood.edu/apply and click “Earn College Credit in High School.”
The Kirkwood Information Technology Academy provides students with a jump start to earning an associates, bachelors and/or graduate degree. Examples of college majors include, but are not limited to: Computer Support Specialist, Computer Programmer, Computer Information Systems, CISCO. If you’re planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at the following link: www.kirkwood.edu/fouryeartransfer

Iowa Average Salaries in IT Careers
Systems Analyst and Internet Programmer: $64,820
Customer Support Specialist: $44,220
Computer science engineer: $71,896
More info can be found at: www.bls.gov

Need to Know …
• Students enrolled will receive credit from their high school and college credit from Kirkwood. The college tuition is paid for by the high school district.
• The grade earned in this course will be reflected on the student’s official college transcript. Students not planning to attend Kirkwood after high school graduation should plan to include this transcript as part of your application process to other colleges or universities. www.kirkwood.edu/transcript
As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.

Program Details
- In most program locations, students will meet Monday-Friday for 1.5 hours for the entire school year.
- Check with your guidance counselor to see if the Information Technology Academy is at a location near you.

How to Get Started
- Talk to your parents and your guidance counselor.
- Go to www.kirkwood.edu/apply and click “Earn College Credit in High School.”
ENGINEERING: Project Lead the Way™ (PLTW) ACADEMY

College credits earned: up to 18.0 (varies by program location)

Why College Credit in High School?
… Find your passion
… Get a head start
… Experience college-level expectations with rock star teachers
… Earn free college credit
… Why not!

Experience
What if there was a class where curiosity ruled? Where you learned not only how things worked, but how you might make them work better. Where the biggest challenge was between you and your imagination. Discover engineering.

Outcome
Through project-based curriculum, problem-solve real-world engineering challenges through nationally recognized, pre-engineering curriculum.

Better prepared for demanding rigor of two- and four-year engineering programs.

PLTW alumni are studying engineering and technology in greater numbers than the national average, with a higher retention rate in college engineering, science and related programs than non-PLTW students.

Career Focus
Determine if engineering is the right career path for you.

College credit courses included in this academy experience:

EGT-400 Introduction to Engineering Design™ (IED)
Uses a design development process while enriching problem-solving skills; students create and analyze models using specialized computer software.

EGT-410 Principles of Engineering™ (POE)
Explores technology systems and manufacturing processes; addresses the social and political consequences of technological change.

EGT-440 Biotechnical Engineering (BE)
In this course students explore the diverse fields of biotechnology. Hands-on projects engage students in engineering design problems related to biomechanics, cardiovascular engineering, genetic engineering, tissue engineering, biomedical devices, forensics and bioethics. Students, usually at the 11th and 12th grade level, apply biological and engineering concepts to design materials and processes that directly measure, repair, improve and extend living systems.

EGT-440 Digital Electronics (DE)
Digital electronics is the foundation of all modern electronic devices such as mobile phones, MP3 players, laptop computers, digital cameras and high-definition televisions. Students are introduced to the process of combinational and sequential logic design, engineering standards and technical documentation. This course is designed for 10th or 11th grade students.

Need to Know …
• All courses are available as dual credit courses and students may be eligible for Regent-accepted, transferrable (EGR) engineering credit. All courses are worth 3 credit hours. In order to receive transferrable EGR credit, students must receive a stanine score of 6 or greater on the end of course assessment. If a student does not achieve this they will still receive EGT credit from Kirkwood.
• Prerequisites: Introduction to Engineering Design is considered a prerequisite to Principles of Engineering. Students should have completed Algebra I (or currently enrolled in while in Introduction to Engineering Design). Students enrolled in Principles of Engineering should also be enrolled in a college-prep math course.
• Students enrolled will receive credit from their high school and college credit from Kirkwood. The college tuition is paid for by the high school district.
• The grade earned in this course will be reflected on the
student’s official college transcript. Students not planning to attend Kirkwood after high school graduation should plan to include this transcript as part of your application process to other colleges or universities. www.kirkwood.edu/transcript

- As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.

Program Details …
- Course offerings vary by location.
- Check with your guidance counselor to see if the Project Lead the Way Academy is at a location near you.

How to Get Started
- Talk to your parents and your guidance counselor.
- Go to www.kirkwood.edu/apply and click “Earn College Credit in High School.”
WELDING ACADEMY

College credits earned: up to 12.0 (varies by program location)

Certification opportunities: American Welding Society (AWS)

Why College Credit in High School?
… Find your passion
… Get a head start
… Experience college-level expectations
   with rock star teachers
… Earn free college credit
… Why not!

Experience
Make some sparks. Join the innovative people who are creating the products of tomorrow.

Hands-on learning in the basics of welding and cutting and their skill applications.

Outcome
Immediate employment opportunities available in a variety of industries.

Kirkwood welding courses prepare you for exciting diversity in skilled careers: from self employment in repair and maintenance trades to commercial and industrial structural and manufacturing employment.

Career Focus
Self employment, machine shop, product and parts manufacturing in agriculture, transportation, construction, and the aerospace industry.

The Kirkwood Welding Academy Program provides students with a jump start to earning an associates, bachelors and/or graduate degree. If you’re planning to transfer to a four-year college or university after attending Kirkwood, specific transfer information can be found at the following link:
www.kirkwood.edu/fouryeartransfer

Iowa Average Salaries in Welding Careers
Machinery Manufacturing: $17.58/hr
Architectural & Structural Manufacturing: $16.81
Repair & Maintenance: $18.08
Product & Parts Manufacturing: $20.66
Motor Vehicle Part Manufacturing: $16.38
More info can be found at: www.bls.gov

College credit courses included in this academy:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL-105</td>
<td>Welding Principles</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Provides students with instruction in welding and cutting principles and their applications. Course includes comprehensive treatment of electrical theory, safety, equipment, electrodes, 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.</td>
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<tr>
<td>WEL-156</td>
<td>Welding Skills I</td>
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<td></td>
<td>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.</td>
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<tr>
<td>WEL-331</td>
<td>Fundamentals of Welding</td>
<td>2</td>
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<td></td>
<td>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.</td>
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<tr>
<td>WEL-370</td>
<td>Production MIG Welding</td>
<td>4</td>
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<td></td>
<td>Teaches proper weld safety, machine setup and welding techniques for gas metal arc welding using short arc, spray and pulse metal transfer methods. Students perform American Welding Society compliant welds on stainless, aluminum and mild steels in the flat and horizontal positions. AWS welder qualifications issued upon successful completion of course.</td>
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</tbody>
</table>

Need to Know …
- Students enrolled will receive credit from their high school and college credit from Kirkwood. The college tuition is paid for by the high school district.
- The grade earned in this course will be reflected on the student’s official college transcript. Students not planning to attend Kirkwood after high school graduation should plan to include this transcript as part of your application process to other colleges or universities. www.kirkwood.edu/transcript
- As part of earning college credit for this academy, students must complete an online application to Kirkwood Community College, and must provide a social security number as part of the secure online college application process to create the official student record.
- Student textbooks, safety equipment and tools will be provided on the first day of class.
Welding Academy

Program Details
• Course offerings vary by location.
• Check with your guidance counselor to see if the Welding Academy program is at a location near you.

How to Get Started
• Talk to your parents and your guidance counselor.
• Go to www.kirkwood.edu/apply and click “Earn College Credit in High School.”
Academy Companion Course Descriptions

High School Credit Only Classes

**American Government**
1 Semester
This course will emphasize the development of the American political system by exploring the constitution and three branches of the federal government. State and local government will be examined as well.

**AP Calculus**
2 Semesters
This is an Advanced Placement Program. The student will follow a prescribed course in college calculus. The course will cover the topics of calculus such as limits of functions, differentials, and integrals and their applications. At the conclusion of the course, the student may pay an Advanced Placement Program fee to take a test on this course. If you are successful, you will be given college credit and will pass out of college calculus.

**HS Physics**
1 Semester
Physics provides an introduction to the laws and theories used to explain the mechanisms of the physical world. Included in the course topics are motion, forces, energy, electricity, magnetism and waves. This course is accepted by colleges and universities to fulfill admission requirements.
Prerequisite: Algebra I

College Credit AND High School Credit Classes (Dual Credit)

**Auto Technical Lab I (AUT-888)**
4 College Credits
1 Semester
Simulated automotive repair environment. Learning activities include complaint, cause and correction to customer vehicles. Parts and labor also covered.

**Biotechnical Engineering (EGT-440)**
3 College Credits
2 Semesters
Hones more advanced skills in biology, physics, technology, and mathematics and applies them to real-world biotech fields. Pre-requisite: Biology Co-requisite: Approved college-prep math course

**Career Decision Making (SDV-160)**
2 College Credits
½ Semester
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. Taken with How College Works (SDV-102)

**Digital Electronics (EGT-420)**
3 College Credits
2 Semesters
Teaches applied logic through work with electronic circuitry, which students also construct and test for functionality. Prerequisite: Principles of Engineering (Project Lead the Way)
Co-requisite: Approved college-prep math course
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Science (ENV-115)</strong></td>
<td>3</td>
<td>1</td>
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<tr>
<td>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.</td>
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<tr>
<td><strong>Exploring Teaching (EDU-110)</strong></td>
<td>2</td>
<td>1</td>
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<td>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.</td>
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<tr>
<td><strong>Fundamentals of Oral Communication (SPC-101)</strong></td>
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<tr>
<td>Studies basic communication theory and practice including communication process, interpersonal relationships, small group interaction and public speaking.</td>
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<tr>
<td><strong>How College Works (SDV-102)</strong></td>
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<tr>
<td>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. Taken with Career Decision Making (SDV-160)</td>
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<tr>
<td><strong>Human Relations in Management (MGT-145)</strong></td>
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<td>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.</td>
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<tr>
<td><strong>Introduction to Computers (CSC-110)</strong></td>
<td>3</td>
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<td>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.</td>
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<tr>
<td><strong>Intro to Sociology (SOC-110)</strong></td>
<td>3</td>
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<td>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.</td>
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<tr>
<td><strong>Statistics (MAT-157)</strong></td>
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<td>1</td>
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<tr>
<td>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.</td>
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<tr>
<td>Course Title</td>
<td>Credits</td>
<td>Semester</td>
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</tr>
<tr>
<td><strong>Welding Fundamentals (WEL-331)</strong></td>
<td>2</td>
<td>1</td>
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<tr>
<td>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.</td>
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<tr>
<td><strong>Introduction to Business (BUS-102)</strong></td>
<td>3</td>
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<tr>
<td>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.</td>
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<tr>
<td><strong>Introduction to Criminal Justice (CRJ-100)</strong></td>
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<tr>
<td>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.</td>
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<tr>
<td><strong>Digital Photography (ART-186)</strong></td>
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<td>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 presentation, critiques online, portfolio and displays.</td>
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</tbody>
</table>