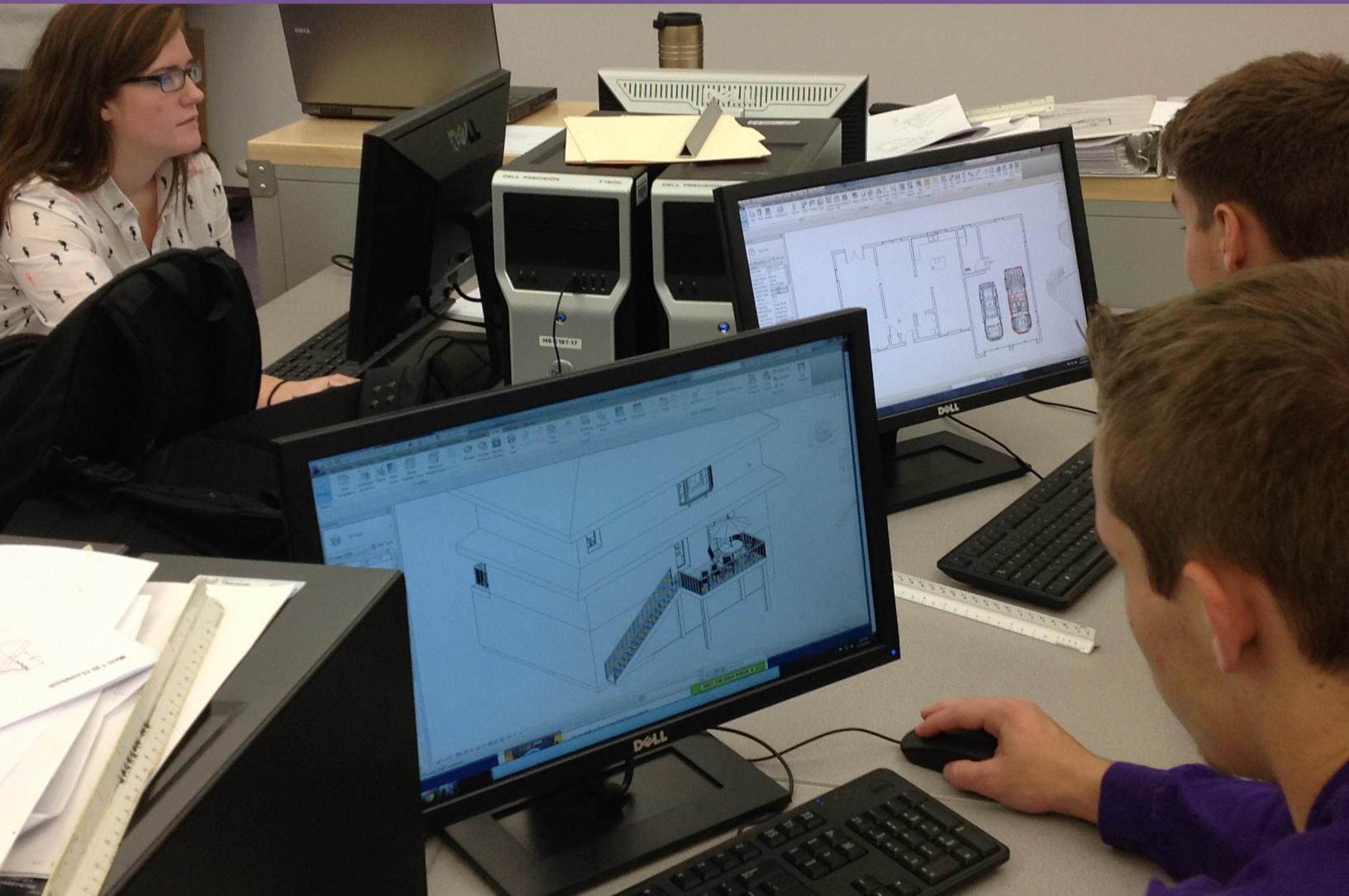




CAREER & TECHNICAL EDUCATION

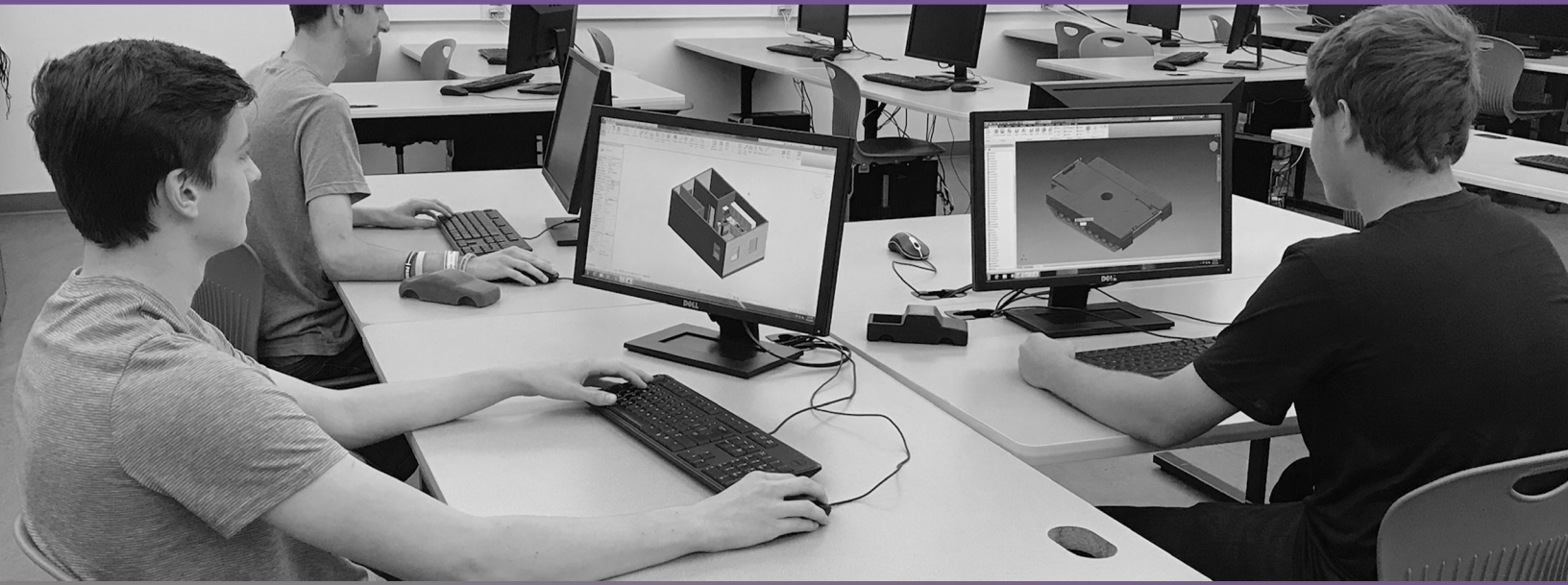


ENGINEERING AND ARCHITECTURE

JACKSON
HIGH SCHOOL

JACKSON HIGH SCHOOL CAREER AND TECHNICAL EDUCATION
330-837-3501. www.jackson.stark.k12.oh.us/webpages/careertech

ENGINEERING AND ARCHITECTURE



Jump Start Your Future in Engineering and Architecture

Engineering and Architecture

Civil Engineering and Architecture - Students will apply knowledge about various aspects of civil engineering and architecture to the design and development of a property. Working in teams, students explore hands-on activities and projects to learn the characteristics of civil engineering and architecture. Students will use the 3D design software to develop a design solution to apply to major course projects. Students will continue to convey findings to members of the professional community.

For More Information

330-837-3501

Keith Kohmann, Engineering Instructor, ext 1507

Rich Dinko, Career and Tech Director, extension 1424

JACKSON
HIGH SCHOOL

Curriculum

This is a two-year program. *Please note: This program is offered in cooperation with Hoover High School. JUNIORS will take these foundation courses at Hoover HS periods 1 and 2 and return to Jackson for the rest of the day. SENIORS will take these Specialization and Capstone Courses at Jackson HS.*

Junior Year Program at Hoover HS (2 periods- 2 credits)

Introduction to Engineering Design - This course exposes students to the design process, research and analysis, communication and technical documentation methods, global and human impacts, and engineering standards. Students use 3D solid modeling design software to help them design solutions to solve proposed problems and learn how to document and communicate their work to the professional community.

Principles of Engineering - This survey course exposes students to the major concepts they'll encounter in a college of engineering program. Students employ engineering and scientific concepts in the solution of engineering design problems. They develop problem-solving skills and apply their knowledge of research and design to create, document and communicate their solutions.

Senior Year Program at Jackson HS (2 periods, 2 credits)

Architecture Design- Structural and Mechanical/Electrical/Plumbing - Students will use architecture design principles to organize and arrange structures to create a perspective of a building. Students will use orthographic/pictorial projection, freehand technical sketching and computer-aided drafting (CAD) skills to generate floor and wall plans, elevations, sections, details and schedules. Students will develop sets of structural framing and mechanical working drawings that include plumbing, HVAC and electrical power and lighting plans.

Architecture Design- Site and Foundation Plans - Students use advanced architectural design concepts to construct design models including perspective drawings for final presentations. Students use orthographic/pictorial projection, freehand technical sketching and computer-aided drafting (CAD) tools to create site foundation and section plans that include topographical details and schedules. Additionally, students perform zoning analysis, develop preliminary plot plans, and construct grading and utilities plans that include legal descriptions and cut and fill volumes.

Project Lead the Way courses completed the Senior year of this 2 year program include:

Engineering Design and Development - This is an engineering research course in which students will work in teams to research, design, test and construct a resolution to an open-ended engineering problem. The product development life cycle and a design process are used to guide and help the team to reach the solution. The team presents and defends their position to a panel of outside reviewers at the conclusion of the course. This capstone course allows students to apply all the skills and knowledge learned.

Civil Engineering and Architecture - Students will apply knowledge about various aspects of civil engineering and architecture to the design and development of a property. Working in teams, students explore hands-on activities and projects to learn the characteristics of civil engineering and architecture. Students will use the 3D design software to develop a design solution to apply to major course projects.