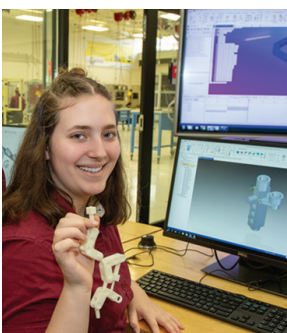
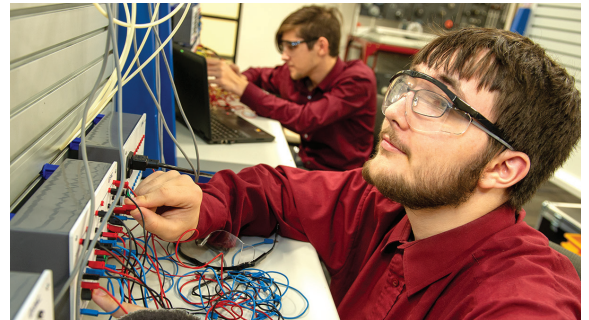


# Engineering Technologies & Robotics

[greatoaks.com/engineeringtech](http://greatoaks.com/engineeringtech)



# Engineering Technologies & Robotics

Available at: Scarlet

## COURSES

### Engineering Design\*

The focus of Engineering Design is the application of the engineering design process. Topics include work-processes, optimization methods, design optimization, and risk management tools. Students will use 2D and 3D modeling software to help them design solutions to solve proposed problems, document their work, and communicate solutions. Additionally, students will interpret industry prints and create working drawings from functional models. Emphasis is given to experimental problem solving in real systems.

### DC Electronic Circuits

Students will learn the fundamental principles of electricity with emphasis on DC (direct current) circuits. They will use concepts of Ohm's Law, the Power Formula, and Kirchoff's Laws with series, parallel, and series-parallel circuit applications. The relationship between electricity and magnetism and motor theory will also be introduced. The student will use and maintain digital multimeters and oscilloscopes.

### Engineering Principles

Students will learn fundamental engineering concepts and scientific principles associated with engineering design applications. Topics include mechanisms, energy, statics, materials, and kinematics. Additionally, students will learn material properties and electrical, control and fluid power systems. Students will learn to apply problem solving, research and design skills to create solutions to engineering challenges.

### Industrial Robotics\*

Students will apply the knowledge and skills necessary to program, safely operate, and troubleshoot industrial robots. The students will learn robotic operations and system configurations. Throughout the course, students will code, compile, and debug programs using industrial robotic programming language.

*\*These courses are eligible for college credit under the Career-Technical Assurance Guide (CTAG.)*

*For more information about what CTAG is: [ohiohighered.org/transfer/ct2/earning-college-credit](http://ohiohighered.org/transfer/ct2/earning-college-credit)*

*To learn what credit is currently available at Ohio colleges and universities: [transfercredit.ohio.gov/pg\\_9?9915099094718](http://transfercredit.ohio.gov/pg_9?9915099094718)*

## CREDENTIALS YOU CAN EARN

- Certified Solid Works Professional
- Certified Solid Works Associate
- OSHA 10 –General Industry
- CPR/First Aid

## INSTRUCTORS

- Scarlet Oaks: Mark Jackson – [jacksonml@greatoaks.com](mailto:jacksonml@greatoaks.com)