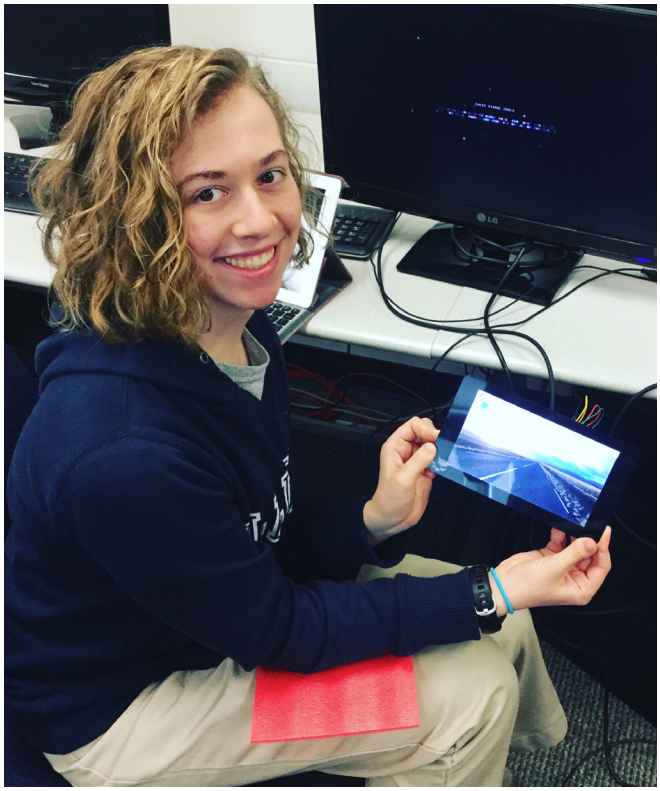
Engineering, Robotics, and Computer Science Department

Philosophy and Purpose

The Pre-Engineering courses at Cathedral are designed to give students opportunities to design and create in an environment where failed attempts and revision are viewed as necessary. Innovation is encouraged and expected, as the pre-engineering curriculum links together the curricular work in the students' math and science courses. Students implement methodology through the Cathedral Innovation Process.

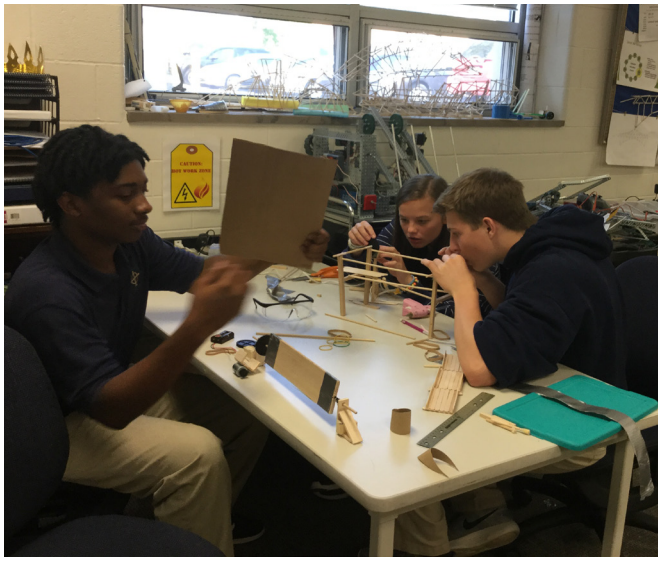
Computer Science at Cathedral High School focuses on 21st-century skills such as design, logical reasoning, and problem-solving. This department believes it is Computer Science, not computer literacy, that will serve as the foundation for innovation. A number of courses are available at different levels to suit the needs of students with varying interests and experiences, culminating in two different Advanced Placement Computer Science courses.

The Robotics courses at Cathedral are designed to encourage both ingenuity and practicality. Students are held responsible for creating a robot and programming it to perform increasingly challenging functions. The competition team participates in various robotics contests.



Cathedral offers STEM classes that encourage teamwork, focus on practical applications of required coursework, and emphasize problem-solving.

Students are given a solid foundation in design and problem solving through implementation of the Cathedral Innovation Process.



Goals

Cathedral's courses in computer science, pre-engineering, and robotics are intended to open students' eyes to the vast career opportunities in these fields. An increased awareness of and exposure to these careers will encourage more students to consider and possibly pursue them.

For those students already predisposed to these careers, Cathedral's coursework in computer science, pre-engineering, and robotics will increase collegiate possibilities and success.

Cathedral

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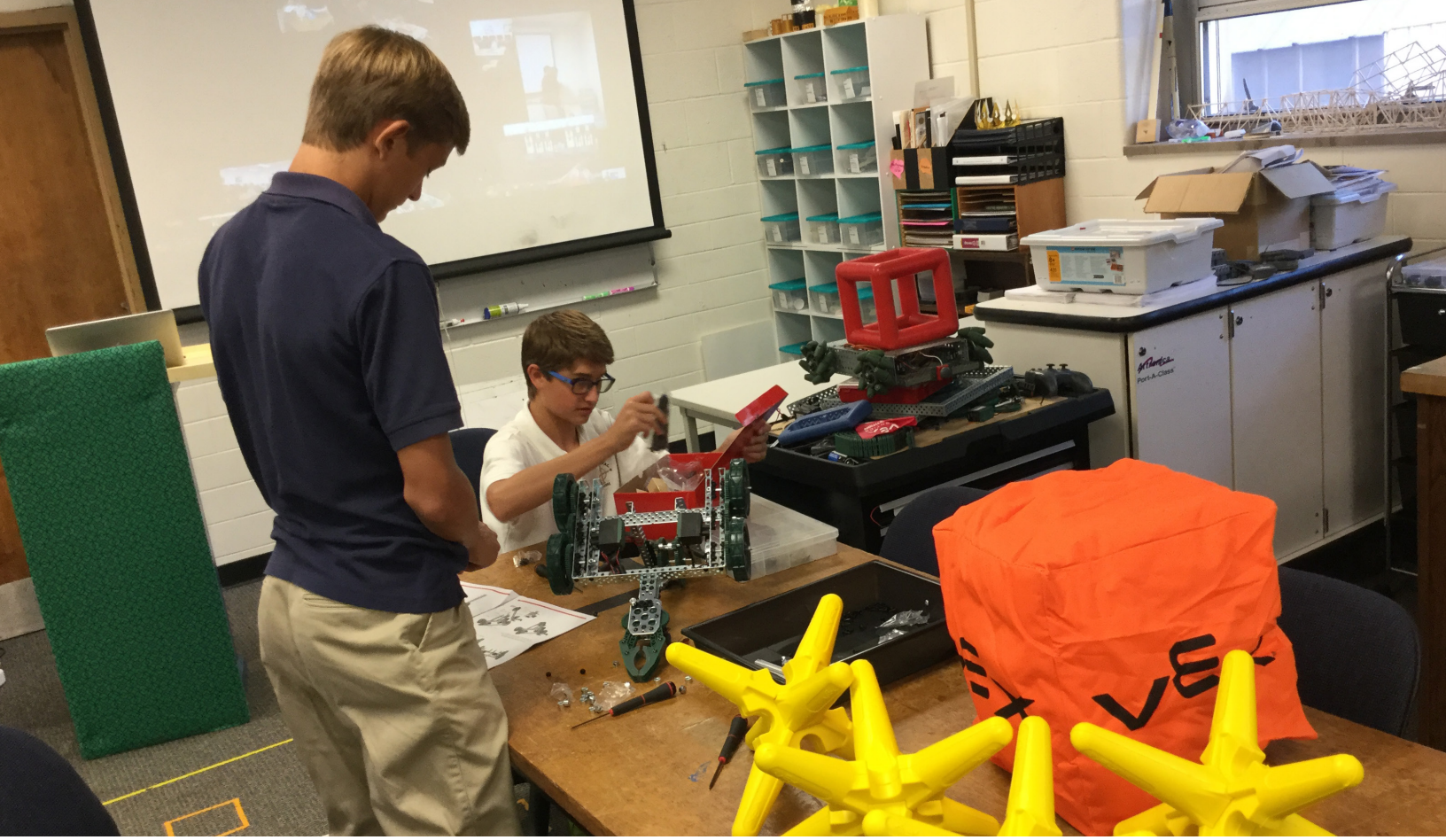

Computer Science, Engineering, and Robotics Clubs and Activities

CTEC

This is Cathedral's Technology and Engineering Club. CTEC participates in the Vex Robotics competition. Robotics is an engaging way to integrate all facets of STEM education into the classroom and head-to-head competition is a natural way to capture students' attention. This multi-day competition allows students the opportunity to pit their robots against those of other high school students. While some of the design and testing of the robots for this competition is done outside of class, students will be having too much fun to realize they're learning important STEM concepts and life skills! Other aspects of Engineering and STEM are explored based on student interests.

University of Evansville Programming Contest

This contest is held once each year and gives computer science students the chance to compete on a multi-state level. Like other programming contests, the focus is on solving a set of problems as quickly as possible.

Engineering, Robotics, and Computer Science Courses Offered:

- Pre-engineering 1
- Pre-engineering 2
- Pre-engineering 3
- Pre-engineering 4
- Computer Programming 1
- Java
- AP Computer Science Principles
- AP Computer Science A
- APP Programming
- WEB Page Design
- C++
- STEM 1
- STEM 2
- Independent Study
- Introductory Robotics
- Competition Robotics

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