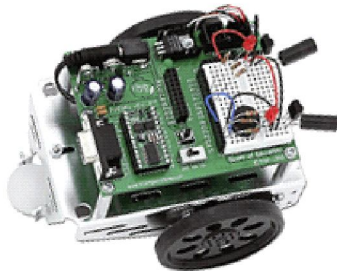# DIGITAL ELECTRONICS

This course will introduce students to the concepts of digital electronics and applied logic. Students will learn how to design, build, test and troubleshoot electronic circuits and projects. Through theory and practical hands-on experience, students will explore the following topics:

- Fundamentals of Electronics
- Logic Gates
- Programmable Logic Devices
- Boolean Algebra
- Microprocessors

Students will have the opportunity to design and build their own electronic projects.

CIVIL ENGINEERING AND ARCHITECTURE

This course provides an overview of the fields of Civil Engineering and Architecture, while emphasizing the interrelationship and dependence of both fields on each other. Students use state-of-the-art software to solve real world problems and communicate solutions to hands-on projects and activities. This course covers topics such as:

- The Roles of Civil Engineers and Architects
- Project Planning
- Site Planning
- Building Design
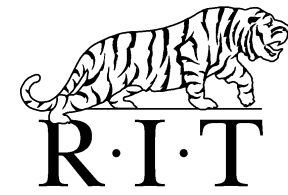- Project Documentation and Presentation

Vestal High School: 607-757-2281

Counseling & Guidance Office: 607-757-2214
205 Woodlawn Drive
Vestal, NY 13850

PROJECT LEAD THE WAY
PLTW

Igniting imagination and innovation through learning.

Pathway to Engineering Program

Course offerings allow students to earn college credit through

R·I·T

What is Project Lead the Way?

Project Lead the Way is Vestal High School's college-recognized pathway to engineering program designed to introduce students to the career of engineering. This program prepares students for the challenges of engineering classes they will be taking in college. PLTW is also a great opportunity for students to explore the field of engineering and make informed career choices. Students planning to major in engineering can benefit by completing the entire program, or by taking just one or more of the five classes. The program is comprised of two foundation courses, two specialization courses and a capstone course. All courses are full year and offer one High School credit.

FOUNDATION COURSES:

Introduction to Engineering Design
Principles of Engineering

SPECIALIZATION COURSES:

Civil Engineering and Architecture
Digital Electronics

CAPSTONE COURSE:

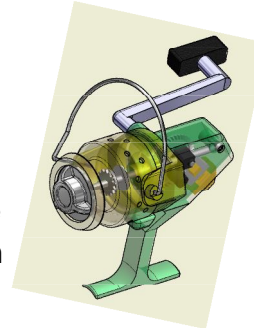Engineering Design and Development

Earn College Credit in High School

All Foundation and Specialization courses offer an opportunity for Vestal High School students to earn college credit through RIT (Rochester Institute of Technology). Students must maintain an 85% course average and pass the college exam to be eligible for college credit.

See the Curriculum Guide or your School Counselor today!
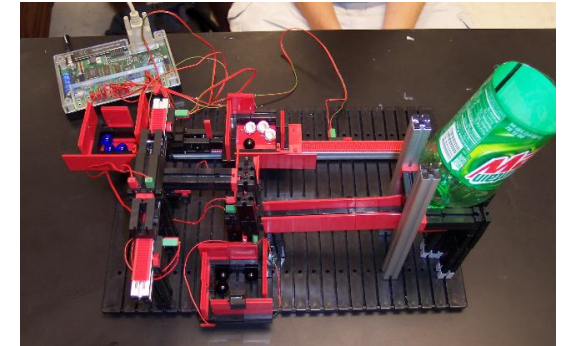
INTRODUCTION TO ENGINEERING DESIGN

This is one of the foundation courses of the Project Lead The Way pre-engineering program. Students in this class will be introduced to 3-D modeling design using the professional software design program, Auto Desk Inventor. This course will foster hands-on problem-solving activities as well as emphasizing research, communication and presentation skills will emphasized. Students will work on such projects as

- Puzzle Cube
- Toy Train
- Reverse Engineering
- An Individual Final Project.

PRINCIPLES OF ENGINEERING

This course provides an overview of engineering and engineering technology.

Students will develop problem-solving skills by tackling real-world engineering problems. This course provides a real-world approach to science, math and technology. Through theory and practical experience, students will become familiar with the multifaceted career of engineering. This course will explore the following topics:

- Design Process
- Fluid Power
- Electronics, Robotics
- Mechanical Systems
- Materials Testing
- Thermo-dynamics
- Engineering for Quality and Reliability