



PROJECT LEAD THE WAY

PLTW

@ MARANATHA

HIGH SCHOOL ENGINEERING COURSES

- × INTRODUCTION TO ENGINEERING DESIGN
- × PRINCIPLES OF ENGINEERING
- × ENGINEERING DESIGN AND DEVELOPMENT

JUNIOR HIGH GATEWAY CLASSES

- × AUTOMATION & ROBOTICS
- × DESIGN & MODELING
- × MAGIC OF ELECTRONS
- × MEDICAL DETECTIVES





WHAT IS PROJECT LEAD THE WAY?

Project Lead the Way is a leading STEM curriculum provider offering students an opportunity to access real-world, applied learning experiences that empower them to gain the skills they need to thrive in college, career, and beyond.



INTRODUCTION TO ENGINEERING DESIGN

Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects like designing a new toy or improving an existing product.

PRINCIPLES OF ENGINEERING

Students explore a broad range of engineering topics including mechanisms, strength of structure and materials, and automation, and then they apply what they know to take on challenges like designing a self-powered car.

ENGINEERING DESIGN AND DEVELOPMENT

Students identify a real-world challenge and then research, design, and test a solution, ultimately presenting their unique solutions to a panel of engineers.

AUTOMATION & ROBOTICS

Students learn about the history and impact of automation and robotics as they explore mechanical systems, energy transfer, machine automation, and computer control systems. Using the VEX Robotics® platform, students apply what they know to design and program traffic lights, robotic arms, and more.

DESIGN & MODELING

Students discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They are then challenged and empowered to use and apply what they've learned throughout the unit to design a therapeutic toy for a child who has cerebral palsy.

MAGIC OF ELECTRONS

In this course, students examine the behavior and parts of atoms as well as the impact of electricity on the world around them. They learn skills in basic circuitry design and use what they know to propose designs such as a burglar alarm for an art museum.

MEDICAL DETECTIVES

Students play the role of real-life medical detectives as they collect and analyze medical data to diagnose disease. They solve medical mysteries through hands-on projects and labs, measure and interpret vital signs, examine nervous system structure and function, investigate disease outbreaks, and explore how a breakdown within the human body can lead to dysfunction.

