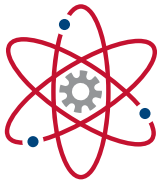




**SAINT DOMINIC ACADEMY**  
*Empowering Women for Leadership Since 1878*



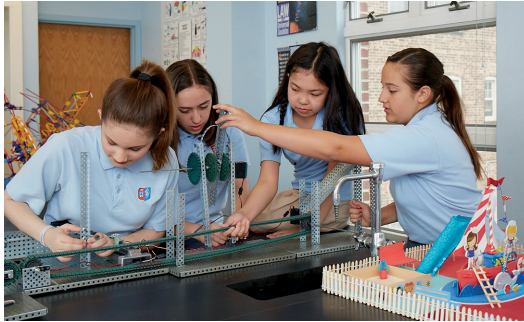
PROJECT LEAD THE WAY

**PLTW**

## Providing a comprehensive approach to STEM® education

### Students

- Apply what they know
- Identify problems
- Find unique solutions
- Lead their own learning



### Educators

- Trained at the PLTW Core Training Institute
- Have the tools to empower students
- Transform classrooms into collaboration spaces where content comes to life

Grade 7: Automation & Robotics  
Grade 8: Design & Modeling  
Grade 9: Physics with Principles of Engineering  
Grade 10: Introduction to Engineering Design

### Automation & Robotics

Students trace the history, development, and influence of automation and robotics. They learn about mechanical systems, energy transfer, machine automation and computer control systems. Students use a robust robotics platform to design, build and program a solution to solve an existing problem.

### Design & Modeling

Students begin to recognize the value of an engineering notebook to document and capture their ideas. They are introduced to and use the design process to solve problems and understand the influence that creative and innovative design has on our lives. Students use industry standard 3D modeling software to create a virtual image of their designs and produce a portfolio to showcase their creative solutions.



### Physics with Principles of Engineering

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.

### STEM IED

Introduction to Engineering Design, focuses on making math and science relevant for students. The approach used is called APPB-learning (activities, projects, and problem-based learning). By engaging in hands-on, real-world projects, students understand how the material covered in class can be applied in their everyday lives. Learning activities will include teacher-led instruction, cooperative learning, and project-based learning. Technology will be used to enhance students learning, and provide real-world applications.

Engineering is a profession that contributes to change and improvements in our world. It creates imaginative and visionary solutions to the challenges of the 21st century – the problems of feeding the world, how we will use energy and continue to protect our environment. Engineering and technology play a vital role in the quality of everyday life and wealth creation. Appropriate attitudes relative to the professional social obligations of the engineer, and the relationships between math, science, technology and society need to be learned. Real world, open-ended engineering problems that cover a wide range of content will be presented.



**Partners in  
Empowering Women  
for Leadership in a  
Global Society**

