

PLTW Program Requirements:

Gateway to Technology (the middle school program) is divided into eight 9-week independent units. Assuming a 45 minute class period, and is designed to be taught in conjunction with a rigorous academic curriculum. Schools offering the program must implement both foundation units and may add any combination of specialization units.

Foundation Course Descriptions:

Design and Modeling-students apply the design process to solve problems and understand the influence of creativity and innovation on their lives. They work in teams to design a playground and furniture, capturing research and ideas in their engineering notebooks. Using Autodesk design software, students create a virtual image of their design and produce a portfolio to showcase their innovative solutions.

Automation and Robotics-students trace the history, development and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the DEX Robotics platform to design, build, and program real-world object such as traffic lights, toll booths, and robotic arms.

Energy & the Environment- Coming Fall 2015

Students are challenged to think big and toward the future as they explore sustainable solutions to our energy needs and investigate the impact of energy on our lives and the world. They design and model alternative energy sources and evaluate options for reducing energy consumption.

Medical Detectives—Coming Fall 2015

Students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a “crime scene.” They solve medical mysteries through hands-on projects and labs, investigate how to measure and interpret vital signs, and learn how the systems of the human body work together to maintain health.

Each class will be offered in eight sections of approximately 15-20 students each. Smaller classes with lower teacher to pupil ratio have been shown to be more successful as teachers are better able to provide individualized instruction. Classes will be taught by teachers who must attend and be certified by MSU to deliver the Project Lead the Way curriculum.