

COURSE
WVEIS CODE

Gateway - Automation and Robotics (AR) (Middle School)
1893

Foundation Unit

- **Automation and Robotics (AR)**
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.

This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)

COURSE
WVEIS CODE

Gateway - Design and Modeling (DM) (Middle School)
1894

Foundation Unit

- **Design and Modeling (DM)**

In this unit, 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.

This course aligns [Project Lead the Way's Gateway Middle School Engineering Program](#)
(Grades 6-8).

COURSE
WVEIS CODE

Gateway - Energy and the Environment (EE) (Middle School)
1895

Specialization Unit

● **Energy and the Environment (EE)**

- Students investigate the impact of energy on our lives and the environment. They design and model alternative energy sources and participate in an energy expo to demonstrate energy concepts and innovative ideas. Students evaluate ways to reduce energy consumption through energy efficiency and sustainability.

This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)

COURSE
WVEIS CODE

Gateway - Flight and Space (FS) (Middle School)
1896

Specialization Unit

● **Flight and Space (FS)**

- The rich history of aerospace comes alive through hands-on activities, research, and a presentation in the form of a short informational video. Students explore the science behind aeronautics and use their knowledge to design, build and test an airfoil. Custom-built simulation software allows students to experience space travel.

This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)

COURSE
WVEIS CODE

Gateway - Green Architecture (GA) (Middle School)
1897

Specialization Unit

• **Green Architecture (GA)**

- In a world of reduced resources and environmental challenges, it is important to present the concept of “being green” to the next generation of designers and builders. In this unit,
- students are introduced to architectural plans, construction styles, alternative materials and processes, dimensioning, measuring and architectural sustainability. Students use a 3D architectural software program to create an environmentally friendly home using shipping containers.

This course aligns
(Grades 6-8).

[Project Lead the Way’s Gateway Middle School Engineering Program](#)

COURSE
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Gateway - Magic of Electrons (ME) (Middle School)
1898

Specialization Unit

● **Magic of Electrons (ME)**

- Through hands-on projects, students explore the science of electricity, behavior and parts of atoms, and sensing devices. Students acquire knowledge and skills in basic circuitry design and examine the impact of electricity on our lives.

This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)

COURSE
WVEIS CODE

Gateway - Science of Technology (ST) (Middle School)
1899

Specialization Unit • **Science of Technology (ST)**

- How has science affected technology throughout history? To answer this question
- students apply the concepts in physics, chemistry and nanotechnology to STEM activities and projects.

This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)

**COURSE
WVEIS CODE**

**Gateway - Computer Science 2
1920**

Specialization Unit

- **Science of Technology (ST)**
This course will allow students to discover computer science concepts and skills by creating personally relevant, tangible, and shareable projects. Throughout the unit, students will learn about programming for the physical world by blending hardware design and software development. They will design and develop a physical computing device, interactive art installation, or wearable, and plan and develop code for microcontrollers that bring their physical designs to life.
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This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)

COURSE
WVEIS CODE

Gateway - Computer Science I
1918

Specialization Unit • **Science of Technology (ST)**

- PLTW introduces students to the field of computer science and the concepts of computational thinking, through the creation of mobile apps. Students are challenged to be creative and innovative, as they collaboratively design and develop mobile solutions to engaging, authentic problems.

This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)

COURSE
WVEIS CODE

Gateway - Medical Detectives (MD) (Middle School)
1900

Specialization Unit

• **Medical Detectives (MD)**

- Medical Detectives (MD) explores the biomedical sciences through hands-on projects and labs that require students to solve a variety of medical mysteries. Students investigate medical careers, vital signs, diagnosis and treatment of diseases, as well as human body
- systems such as the nervous system. Genetic testing for hereditary diseases and DNA crime scene analysis put the students in the place of real life medical detectives. The unit will be field tested spring 2013 and made available to the network for the 2013-2014 school year.

This course aligns
(Grades 6-8).

[Project Lead the Way's Gateway Middle School Engineering Program](#)