##  **Frequently Asked Questions**

 **If I am accepted into the program now, do I have to continue if I do not like it?**

*No. There is no requirement but we are searching for students who plan to complete the entire four year program.*

**What is the level of math required for the program?**

*Since engineering utilizes both math and science concepts it is helpful for a student to display strength in these areas.*

**Is the program challenging?**

*Yes. The program is designed to be an academically challenging program to fully prepare the student for post-secondary education.*

**How “hands on” is the program?**

*If the student is a “hands on” person then this program is for them. Projects are often used for assessment rather than traditional tests.*

**Is there any post-secondary credit given to students who successfully complete the program?**

*Yes, PLTW is an accredited program at SHS. Our students will have the opportunity to earn college credit through RIT. Many prestigious colleges are aware of the rigor of PLTW.*

**Is PLTW at Southington HS co-ed?**

*Yes, we encourage female students to apply. Currently about 25% of our students are female.*

**Goals of Project Lead the Way**

* To increase the number of young people who pursue engineering and engineering technology programs requiring a four or two-year college degree.
* To provide clear standards and expectations that allows student success in the program.
* To provide leadership and support that will produce continuous improvement and innovation in the program.
* To provide equitable and inclusive opportunities for all academically qualified students without regard to gender or ethnic origin.
* To reduce the future college attrition rates within four and two-year engineering and engineering technology degree programs.
* To contribute to the continuance of America's national prosperity.



#### Official Project Lead the Way Site

[www.pltw.org](http://www.pltw.org)

**Southington High School Contacts**

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**SHS’s PLTW Application is online at:**

the Southington High Website

**Southington High School**

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**Engineering Program**

# **SOUTHINGTON High sCHOOL’ S Engineering Program**

SHS's Engineering Program ranked #1 on the Career and Technical Education standardized assessment five years straight!

2009, 2011, 2012, 2013, 2014, 2015

Southington High School chose to implement a national pre-engineering program called ***Project Lead the Way*** **(PLTW).** SHS was the first high school to have an accredited program in the state of Connecticut. Enrolled students are devoting most of their elective courses offered during their tenure at SHS to preparing themselves for a career in engineering. The program is a rigorous series of courses that challenges the student to implement the math and science concepts they are learning in their core courses to engineering principles. A national standard based curriculum is established and followed. In addition, there is the advantage of an opportunity to receive RIT college credit for many of the required courses. PLTW at SHS has a Professional Advisory Board from the community that offers support and advisement to the program.

Students enrolled in the PLTW Program progress through a series of five sequential courses including the capstone course in their senior year. This course is one in which the students work as a group utilizing research and design in developing a project. With completion of these courses, students who are interested in pursuing engineering in college will have experienced what a career in engineering entails.



**PLTW PROGRAM COURSES AT SOUTHINGTON HIGH**

**Introduction to Engineering Design**: A course that teaches problem-solving skills using a design development process for products. Models of product solutions are created, analyzed and communicated using solid modeling computer design software.

**Digital Electronics**: A course in applied logic that encompasses the application of electronic circuits and devices. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices in preparation for the electrical engineering discipline.

**Computer Integrated Manufacturing**: The course builds on computer solid modeling skills developed in Introduction to Engineering Design. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing, and design analysis are included.

**Principles of Engineering**: A course that helps students understand the field of engineering and engineering technology. Fundamental principles of engineering including dynamics and kinematics, machines, hydraulics, pneumatics, thermodynamics and strength of materials are discussed in preparation of the mechanical and civil engineering disciplines.

**Engineering Design and Development:** A course in which students work in teams to research, design and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses and are guided by a community mentor in this capstone course.

**Field Trips**: All students in the program are taken on field trips two times per year. By the time they graduate they will have visited at least 3 engineering colleges and 4 companies.

***Sample* Schedule For Students**

 **Freshmen Year**

|  |  |
| --- | --- |
| English  | foreign language |
| geometry | PE/Health |
| Earth Science | **PLTW (IED)** |
| civics | LUNCH |

 **Sophomore Year**

|  |  |
| --- | --- |
| English | For. Lang. |
| algebra ii | PE/ Health |
| Biology | **PLTW (de)** |
| world history | LUNCH |

 **Junior Year**

|  |  |
| --- | --- |
| English | **PLTW (poe)** |
| pre-calculus | **PLTW (CIM)** |
| Chemisty | PE/health |
| US History  | For. Lang |

 **Senior Year**

|  |  |
| --- | --- |
| English | **PLTW (EDD)** |
| calculus | Elective |
| Physics | PE/Health |
| ELECTIVE | LUNCH |