

Pine Lake Engineering-Upper School



Engineering Progression

Year 1: Foundation*-Introduction to Engineering Design(IED)

Year 2: Foundation*-Principles of Engineering (POE)

Year 3: Specialization-Aerospace Engineering. (AE)

Year 4: Specialization-Capstone course: Engineering Design and Development (EDD)

**Foundation courses must be taken in sequence prior to AE and/or EDD.*

Computer Science Progression

Year 1: Computer Science Principles (CSP)*

Year 2: Computer Science Applications (CSA)

Year 3: Cybersecurity (SEC)

**CSP also serves as a specialization course in the engineering progression.*

Students who demonstrate strong interest in engineering, science and math are encouraged to enroll in Engineering and/or Computer Engineering. Completion of a minimum of Math I, with an 80 or better average is required. Classes will be Honors weighted.

The course plan for PLP will proceed as follows:

2015-2016: IED (Intro. to Engineering Design), POE (Principles of Engineering)

2016-2017: IED, POE, AE (Aerospace Engineering), CSP (Computer Science Principles)

2017-2018: IED,POE,AE,EDD(Engineering Design and Development)

NEW for 2016-2017-Computer Science

2016-2017: CSP(Computer Science Principles)

2017-2018:CSP,CSA (Computer Science Applications)

2018-2019: CSP, CSA, SEC(Cybersecurity)

Computer science offerings are dependent upon student enrollment.

Project Lead the Way Website:

www.pltw.org

Informational video:

<https://www.youtube.com/watch?v=yyDn9dXJ3MI>

Pine Lake's STEM initiative will transform the Pine Lake Campus in great ways. The curriculum is a true engineering curriculum that exposes and provides students with skills and ways of thinking that will benefit them at the university level and beyond. The problem based curriculum of PLTW (Project Lead the Way) teaches students to think and work through complex situations.

Frequently Asked Questions

Is it possible to switch between the Engineering and Computer Engineering pathways?

Yes. Students may take any of both pathways as long as they follow the required sequence for each one. For example, in Engineering, a student must take IED and POE first before moving to a specialization class. In Computer Engineering, a student must move forward through the progression.

Do students who take Project Lead the Way classes have a standardized final exam?

Yes. The norm referenced exam is produced and scored by PLTW on a 1-9 scale. Scores are then converted by the teacher of the section into a final exam grade.

Please describe the work-load that Engineering classes require.

Engineering classes foster thinking and problem solving. The problems and activities completed in class are by no means considered “easy”. However, on average, there is not a significant out of class time commitment. The majority of work is completed in class.

Can my 9th grader be successful if he/she does not have a study hall?

9th graders in Engineering for have found great success without a study hall.

Can a 9th grader take the Computer Science Principles class?

Yes. However, the student should have completed the Math I prerequisite and should be a mature, self motivated learner.

Why is there a Math I prerequisite for High School Engineering classes?

While the content covered in High School has many similarities to the Middle School curriculum, the math skills required for student success are advanced. For this reason, completion of Math I with an 80 or better is required. Students who wait until 10th grade to start the Engineering progression will have ample time to take 4 or more classes.

What are the benefits of taking a PLTW Engineering course?

First, some colleges offer credit for courses depending on the student's grade and end of course test score. Secondly, Engineering classes promote critical thinking, problem solving, and group dynamic skills. Finally, colleges want to see that a student has taken a rigorous course load. PLTW is a nationally recognized and respected high school engineering curriculum.

For information regarding Upper School Engineering and/or Computer Science contact:

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