

Get a head start on your future career by beginning the Pre-Engineering program as a sophomore. With an extra year in the classroom and the lab, you'll gain a more in-depth understanding of what it takes to become an engineer. The classes you'll take in the Academy will introduce you to a variety of engineering career paths. From design and development to architecture and aerospace, classes in this program form the foundation you need to succeed in a college engineering program.

It won't take long to discover that this is not your traditional classroom. It's a place to explore, tinker and understand. It's an environment where you can ask questions and imagine possible answers. With project-based assignments you'll train on engineering design software to invent a new product, use the latest technology to calibrate a high-tech material sorter and build an airplane that can fly. This classroom is a place where discovery happens every day.

Starting as a junior? Don't worry, you can enroll in the Project Lead The Way Pre-Engineering (960) program.

## **How You'll Learn Hands-On**

Get out of the classroom and into the real world with projects such as:

- Developing apps and algorithms
- Designing and building airplanes

## **Project Lead The Way**

Project Lead the Way (PLTW), a national non-profit organization, developed the Pre-Engineering curriculum to help deliver a rigorous college readiness curriculum to high school students. Industry leaders, who helped develop the curriculum, recognized the importance of preparing students with a solid academic foundation in mathematics and science as they prepare to enter college. PLTW curriculum focuses on developing better problem-solving skills by immersing students in real-world preparatory-level academics and is designed to prepare students for postsecondary studies in engineering and engineering technology. This program will provide a solid foundation in math and science through rigorous and engaging coursework with the potential for college credit through Advanced Placement exams.

The Meridian Technology Center STEM Academy was named a Distinguished High School by Project Lead the Way (PLTW) for its Biomedical Sciences and Pre-Engineering programs.

This is the fourth year in a row that the school has received this designation.



## What You'll Learn

<b>PLTW Courses</b>	<b>Hours</b>
<b>PLTW Principles of Engineering</b> Core Course - Year 1	120
<b>PLTW Introduction to Engineering Design</b> Core Course - Year 1	120
<b>PLTW Engineering Design and Development</b> Core Course - Year 3	120
<b>PLTW Civil Engineering and Architecture</b> Specialty Course - Elective for Year 2/3	120
<b>PLTW Biomedical Innovation</b> Specialty Course - Elective for Year 2/3	120
<b>PLTW Aerospace Engineering</b> Specialty Course - Elective for Year 2/3	120
<b>PLTW Computer Science Principles</b> *AP Computer Science Principles (Available for AP Credit) Specialty Course - Elective for Year 2/3	120

<b>Science and Math Courses</b>	<b>Hours</b>
<b>Honors Algebra II</b>	120
<b>Pre-Calculus</b>	120
<b>AP Calculus AB</b>	120
<b>AP Statistics</b>	120
<b>Honors Chemistry</b>	120
<b>AP Chemistry</b>	120
<b>AP Physics I</b>	120
<b>Digital Electronics</b>	120

<b>Total Hours</b>	<b>1440</b>
6 PLTW Courses	720
3 Science Courses	360
3 Mathematics Courses	360

## Pre-Engineering Academy Entrance Requirements

The Pre-Engineering program is a part of Meridian's STEM Academy. An application and interview process with the instructors will take place. Students must be at or above grade level in reading and mathematics and demonstrate a high interest and/or aptitude in math and science. Applicants must have completed Algebra I with a grade of B or better. Candidates must have passed eighth grade state tests in reading and mathematics and have a minimum of a 3.0 GPA. Candidates must be either an upcoming sophomore or junior to apply. Please contact your high school counselor about enrollment.

\*Schedule is dependent upon successful completion of pre-requisites.

## Career Readiness Certificate

[WorkKeys®](#), an assessment tool from the ACT® organization, measures skills employers have identified as critical to job success in their industry and are used in hiring and promoting employees. Students are able to earn the ACT®-issued [National Career Readiness Certificate](#) by meeting the score requirements for their job field on three WorkKeys® assessments.

Matching the right employees with the right job creates employee job satisfaction, increased self-confidence and the best wages possible for the employee. The employer benefits with reduced turnover and training, increased productivity and overall company success. To learn about the WorkKeys® scores needed for your future career field visit [Job Profiles](#).

The required WorkKeys scores for this career major are:

Applied Math - 4

Workplace Documents - 4

Graphic Literacy - 4

## Graduation Requirements

In order to be successful in a career, students will need to meet all technical and academic standards related to their career of choice at Meridian. Meridian offers rigorous programs of study designed in cooperation with business and industry to ensure students are fully prepared for the demands of the workplace.

### Meridian's Career Ready Credential

When a student completes all standards as set forth in their program of study, they will be considered a graduate of Meridian and receive the Career Ready Credential. Students who do not meet these standards will not be considered graduates of Meridian. Students should have:

- Completed all courses in a career major with a grade of "C" or above and achieved required industry-based certifications for the career major
- Achieved WorkKeys® scores at or above the level required for the career major or earned an ACT® composite score of 19 or greater (Students may substitute equivalent scores on SAT, ACCUPLACER or other approved assessments.)

### Additional Endorsements

Students earning a Career Ready Credential may also earn the Postsecondary Ready Endorsement, Citizenship Ready Endorsement and the National Career Readiness Certificate (CRC).

#### Postsecondary Ready Endorsement

- Earned, or was on track to earn, a high school diploma or GED at the time of Meridian graduation
- Achieved a subscore of 19 or greater on the ACT® in math, English, reading and science (Students may substitute equivalent scores on SAT, ACCUPLACER or other approved assessments.)

#### Citizenship Ready Endorsement

- Completed employment profile, résumé, job application, cover letter, mock interview and job search training through [OKJobMatch.com](http://OKJobMatch.com)
- Documented active membership in a [CareerTech Student Organization](#) or professional

association related to the program of study

- Documented 20 hours of volunteerism or service in a community activity

### **National Career Readiness Certificate (CRC)**

- Completed WorkKeys® assessments in Applied Math, Graphic Literacy and Workplace Documents and received a silver, gold or platinum National [Career Readiness Certificate](#) through the Oklahoma Department of Career and Technology Education.

## **Get Started**

Apply for [admission as a high school student](#). Contact the Career Planning Center with questions at [405.377.3333](#).