

PLTW Engineering Electives STA Program AE Candidate Learner Profile

The learner *is HIGHLY motivated to:*

Learner Trait	Specific Behaviors
Inquiry	<ul style="list-style-type: none"> ● Demonstrate natural curiosity in creating things with their hands ● Acquire skills to conduct inquiry into why things work ● Actively enjoy learning, reading and researching technological history, applications, and advancements
Critical Thinking	<ul style="list-style-type: none"> ● Demonstrate both logical and creative problem-solving in how to design and construct their own projects ● Embrace complex problems in math, logic and the design process ● Make reasoned, ethical decisions in creating safe designs
Knowledge	<ul style="list-style-type: none"> ● Explore concepts and ideas of both local and global significance in engineering design and development ● Acquire in-depth understanding across a broad and balanced range of disciplines in mathematics, science, and physics as it is used to create new products for consumers
Communication	<ul style="list-style-type: none"> ● Express ideas and information confidently and creatively in individual and group projects and presentations ● Use language in a variety of modes, both written and oral details that account for their thought processes in solving problems ● Work effectively and willingly in collaboration with others in group projects where the quality of their work influences the team's progress towards successful completion
Maturity	<ul style="list-style-type: none"> ● Take responsibility for their own actions and accept consequences ● Act with integrity and honesty ● Seek a range of perspectives on learning engineering methodologies and how they are necessary to create a documented account of work ● Demonstrate initiative in solving their own problems by researching all areas of a subject to gain a deeper understanding of the work being done ● Understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of others ● Stay on task and focused in longer blocks of instruction where the work is very detailed and there are many steps in the process ● Manage time effectively

Subject specific proficiencies:

Communication Arts	Social Studies	Science	Mathematics
<ul style="list-style-type: none"> ➤ Read at or above grade level ➤ Know basic grammar and conventions ➤ Use the writing process 	<ul style="list-style-type: none"> ➤ Read at or above grade level ➤ Be open-minded to new perspectives and effectively make use of primary sources 	<ul style="list-style-type: none"> ➤ Understand, utilize, and appreciate the inquiry-nature of the discipline ➤ Adhere to directions on multi-faceted investigations ➤ Willing to learn and utilize various mathematical methods in order to analyze results and draw logical conclusions 	<ul style="list-style-type: none"> ➤ Excellent computational skills ➤ Capable of grasping new concepts after the first time they are presented ➤ Consistently use algebra, geometry and trigonometry ➤ Capable of completing multi-step math problems

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This learner should demonstrate a passion and strong interest in aerospace career areas.

**If the student does not currently exhibit *most* of the specific behaviors listed,
the student most likely would not be successful in this course.**