

# **STEM Engineering**

**Jose Balderas, M.Ed.  
Bachelor of Science in Civil Engineering  
University of Texas at San Antonio  
Engineer-In-Training Certificate**



# POS Course Sequence Endorsement

- 9<sup>th</sup> or 10<sup>th</sup> Principles of Applied Engineering
- 11<sup>th</sup> Engineering Design & Problem Solving/  
Engineering Design & Presentation I
- 12<sup>th</sup> Engineering Design & Presentation II

STEM Endorsement upon program completion

# Course Description

- **Principles of Applied Engineering** - provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects.

Students will learn about engineering careers such as civil, mechanical and electrical engineering, and will also learn basic engineering drawing techniques.

- **Prerequisites: none**

# Course Description

- **Engineering Design & Problem Solving (1 core Science credit)** - course is the creative process of solving problems by identifying needs and then devising solutions. The solution may be a product, technique, structure, or process depending on the problem.

Students will learn and experience the engineering design process through the Engineer Your World curriculum from The University of Texas at Austin. Students will be designing a camera obscura, face masks and other project based learning work to demonstrate their understanding of the engineering process.

- **Prerequisites: Algebra I**

# Course Description

- **Engineering Design & Presentation I** - demonstrate knowledge and skills of the design process using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes.
- **Prerequisites:** Algebra I, Principles of Applied Engineering



# Course Description

- **Engineering Design & Presentation II** - is a continuation of knowledge and skills learned in Engineering Design and Presentation I. Students enrolled in this course will demonstrate knowledge and skills of the design process as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will use a variety of computer hardware and software applications to complete assignments and projects.
- **Prerequisites: Algebra I & Geometry**



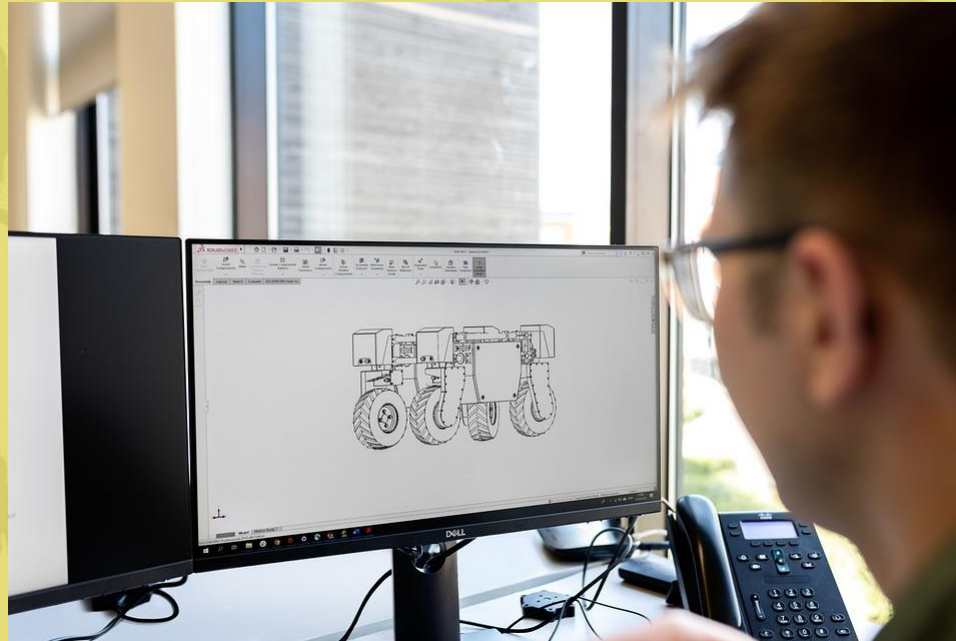
# Dual Enrollment

- Engineering Design and Problem Solving  
(UT Austin ES 301 or UTSA EGR 1003)
- 3 college credit hours



# Industry Certification/Licensure

- Certified Solid Works Associate (CSWA)





# Questions

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