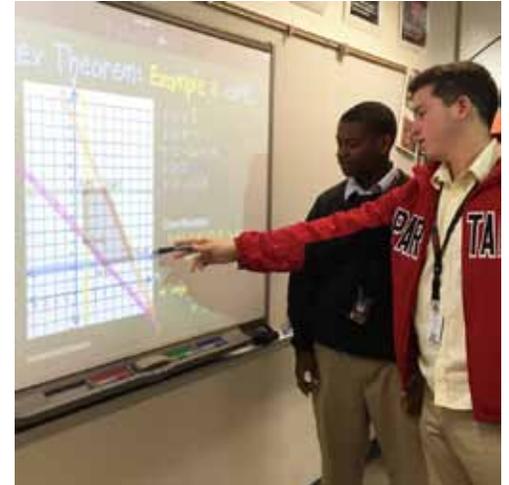
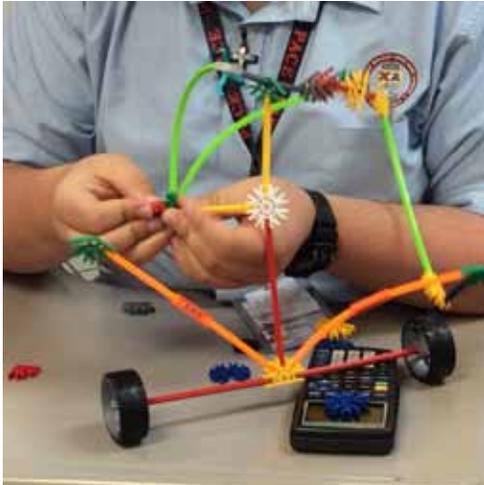




# The STEM Academy ENGINEERING PROGRAM



**“SCIENTISTS STUDY THE WORLD AS IT IS,  
ENGINEERS CREATE THE WORLD THAT NEVER HAS BEEN.”**

*Theodore von Kármán*

## THE PROGRAM

According to U.S. Bureau of Labor statistics, the field of engineering is expected to grow by 10 percent in the coming decade. Engineers are constantly changing the world by dreaming up creative, practical solutions and working together to invent, design, and create things that matter. Engineers are at the center of innovation, from increasing a person’s life expectancy and quality of life to creating and improving the communication systems that keep us all connected.

The Monsignor Edward Pace STEM Academy Engineering Program is designed to offer a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards that prepare students for further education and careers in engineering. The program features advanced math and science courses to ensure students meet the minimum requirements for acceptance to a collegiate engineering program. In addition, the program’s specialized engineering courses enable students to explore the various fields within engineering, discover the principles of the engineering design process, and develop crucial problem-solving, designing, and professional presentation skills.

## PROGRAM TRACK

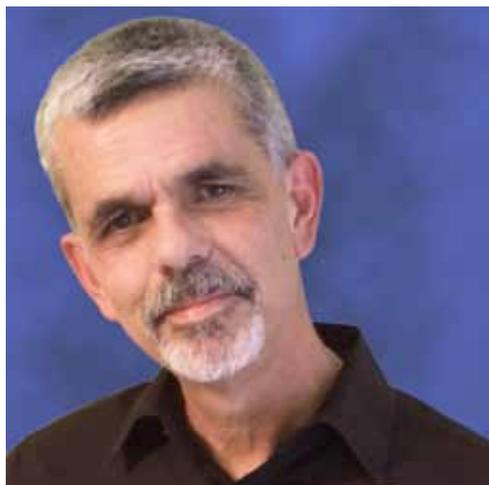
ENGINEERING	
9th Grade	Introduction to Engineering Design
10th Grade	Principles of Engineering
11th Grade	Drafting I
12th Grade	Engineering Design and Development

\*Courses subject to change

# EDUCATE

# MOTIVATE

# INSPIRE



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## ABOUT THE LEAD TEACHERS

Mrs. Laura Lima has been working in the STEM fields for about 10 years. She received a Bachelor's of Art degree in the field of Mathematics with a minor in Secondary Education from the University of Miami, where she was an integral member of many national education and STEM related organizations such as the Society of Hispanic Professional Engineers and the Future Educators Association.

Mrs. Lima has been teaching Mathematics at Monsignor Edward Pace for the last 5 years, including a variety of classes such as Algebra I, Algebra II, Math Analysis, and Calculus. She has implemented a Math Lab peer-tutoring program and she is the chapter sponsor for the Mu Alpha Theta Math Honor Society.

Mr. Jose Ramos has been working with advanced technology for more than 30 years. He received a Bachelors of Science in Nuclear Engineering and a Masters in Nuclear Engineering from the University of Florida. The initial years of his career were spent working in Virginia with Babcock and Wilcox at their Nuclear Power Operations Division where he performed Thermal Hydraulic Analyses in support of newly developed fuel designs. He subsequently moved to Florida and was hired into Florida Power and Light's Nuclear Fuel Division where he remained for almost 15 years. During this time, he specialized in the area of Nuclear Safety Analysis and became involved in multiple related activities, such as refueling operations, training simulator development and support, and plant efficiency optimization.

Mr. Ramos is also certified as a Microsoft Systems Engineer and worked as a Network Administrator for a large pharmaceutical company for approximately 10 years. He currently holds a certification in Mathematics Education Grades 6-12 from the State of Florida. In addition to teaching mathematics, Mr. Ramos is an integral part of the STEM Academy Engineering Program, where he currently teaches two engineering courses.

## PROGRAM OUTCOMES

- STEM-focused Math and Science courses
- Project-based Engineering courses
- Guest speakers from various STEM fields
- Field trips to local universities and businesses
- Membership in junior chapters of professional engineering affiliations such as SHPE Jr. (Society of Hispanic Professional Engineers) and NSBE Jr. (National Society of Black Engineers)
- Participate in regional and national STEM competitions
- Preparation for college engineering programs

## APPLICATION & FEES

Applicants will be admitted to the program on a trial basis during their freshman year. Academy participants must maintain a minimum B average in all science classes to continue in the program.

Additional fees will be incurred as part of this program, including but not limited to, testing fees and required special events.