

2018 Middle School Summer Engineering Technology Program

Fundamentals of Engineering

Learn more about the field of engineering

- Introduction of engineering topics for future engineers
- Promotion of critical thinking through engineering activities
- Team building and competitive activities

Offered: Week 1: June 11-15, and Week 2: June 18-22

Coordinator: Ali Zilouchian, Ph.D.

Schedule:

Day	Morning Session	Afternoon Session
Monday	<ul style="list-style-type: none"> • Meet and greet. • Overview of civil engineering and tour of labs. • Concrete Frisbee Activity. Who can make the strongest concrete Frisbee out of cement. Plan to get dirty. 	Structural Engineering Design activity. Students will design and build a bridge using geometric shapes and PVC pipe. Overall structural strength, length vs. weight, cost and aesthetics will be evaluated and tested.
Tuesday	<ul style="list-style-type: none"> • Overview of electrical engineering and tour of labs. • Circuit Design and Ohm's Law activity 	Solder activity. Students will build their own line tracking robot and get the experience and skills needed to build more advanced electronic kits.
Wednesday	<ul style="list-style-type: none"> • Overview of mechanical engineering and tour of labs. • Hands-on activity on mechanical functions and simple machines. 	Bernoulli's Principle and hands-on activities on lift and aerodynamics. Bio-Mechanical activity.
Thursday	<ul style="list-style-type: none"> • Overview of ocean engineering and tour of labs. • Stability and Buoyancy activity. 	Solar Boat activity. Students will design, build and test their own solar boat.
Friday	<ul style="list-style-type: none"> • Overview of geomatics engineering and demonstration of Geospatial Technologies. • Surveying Methods activity. 	Competitions, presentations & awards. Working in team's students will create a short PowerPoint presentation about what they learned from the week's activities.