# 2019 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

### Schedule:

<table>
<thead>
<tr>
<th>Day</th>
<th>Morning Session</th>
<th>Afternoon Session</th>
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| Monday  | • 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 | • 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 advance electronic kits. |
| Wednesday | • 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 | • 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  | • 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. |