NHS ENGINEERING ACADEMY

Engineering Courses Offered at Naples High School

Introduction to Engineering Design (IED)

IED exposes students to some of the major concepts that they will encounter in a post-secondary introductory level engineering design course of study. Students have an opportunity to:

- Design a consumer product using an engineering design process based on a design brief
- Solve a problem using an engineering design process
- Create and/or modify 3D solid computer models and assemblies of complex parts using Autodesk Inventor

Computer Integrated Manufacturing (CIM)

CIM exposes students to some of the major concepts that they will encounter in a post-secondary manufacturing engineering course of study. Students have an opportunity to:

- Design and build robots using VEX robotics hardware and software
- Complete hands on projects and activities using CNC milling machines
- Produce parts as well as program robotic arm hardware and software using ROBOTC.

Principles of Engineering (POE)

POE exposes students to some of the major concepts that they will encounter in a post-secondary mechanical engineering course of study. Students have an opportunity to:

- Explore, improve and design alternative fuel systems
- Design and build robots using VEX robotics hardware and software
- Produce, evaluate and justify the use of hydraulic or pneumatic systems

Civil Engineering and Architecture (CEA)

CEA exposes students to some of the major concepts that they will encounter in a post-secondary civil or architectural engineering course of study. Students have an opportunity to:

- Design a single family, commercial retail and commercial renovations projects using Autodesk Revit
- Document a design with construction drawings and a 3D computer model using Autodesk Revit
- Analyze, evaluate and apply multiple structural and architectural engineering equations including construction cost take-offs, beam design, water pressure, occupancy load, heating/cooling system loads

Aerospace Engineering (AE)

AE exposes students to the fundamentals of atmospheric and space flight. As they explore the physics of flight, Students have an opportunity to:

- Design model rockets with varying types of propulsion systems
- Learn basic orbital mechanics using industry standard software
- Explore robot systems through projects such as remotely operated vehicles and surface rovers