Engineering Honors: Principles and Practice

Course Descritpion:

“Just as Science has many fields, so too does Engineering. After briefly exploring various fields of engineering, students will more generally explore skill sets required of successful engineers. This course will include exposure to the discipline and a significant project-based component. The engineering process of designing and redesigning to fulfill a societal need will be studied through case studies in the student’s area of interest. Students will write a request for proposals and also respond to classmates.”

What is engineering?

In a nut shell, engineering is a field of science that uses and applies various mathematical and scientific concepts to solve real world problems. Over the years, as our understanding of math and science get deeper and clearer, engineering has been advancing. Because of many useful engineering creations, human beings life style has changed. To be a great engineer, one should be able to understand what it takes to make something from scratch and be able to consider all the other influential factors i.e. environmental and social.

Types of Engineering:

1. Civil Engineering
2. Electrical Engineering
3. Computer Engineering
4. Mechanical Engineering
5. Chemical Engineering
6. Environmental Engineering

** These are some of the major fields of engineering.

Purpose:

The main purpose of this course is to give students basic ideas of engineering and its application in the real world. This course will allow students to learn about the different fields of engineering and their corresponding skills sets. It is also designed to help students understand how multiple factors play a role in design and production of goods, devices and physical structures. Hands on experiments and project-based activities are included in the lesson plan. Individual works and collaborative assignments with other classmates are integrated within the course lessons.

Projected knowledge:

By the end of this course, students will have a clear understanding of the various engineering fields. Students will know the basic ideas behind the fundamental principles of design and construction. Student will put social and environmental effects into consideration while using various fields of engineering. Students will also be able to relate the application of different mathematical and scientific concepts in engineering.