

Free essay on engineering careers

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Engineering Disciplines Handout - Lists useful information about the different disciplines

Engineering disciplines can be divided into four categories based on their size. The first is the ' Big Four' Disciplines, which consist of Civil, Computer, Electrical, and Mechanical engineering. This disciplines account for almost 67% of the bachelor's degrees awarded annually.

The second is the ' medium four' disciplines, which include Aerospace, Biomedical, Chemical, and Industrial/Manufacturing Engineering. This account for 20% of the bachelor's degrees awarded annually.

The third is the ' smaller ten' disciplines, which include Agricultural, Architectural, Engineering Management, Engineering Physics/Engineering Science, Environmental, General Engineering Studies, Materials, Mining, Nuclear, and Petroleum Engineering. This account for 10% of the bachelor's degrees awarded annually.

The last category is the ' specialty' disciplines, which consists of specialty courses such as Ocean Engineering. This accounts for less than 5% of the bachelor's degrees awarded annually

Engineering fields – A descriptive overview of engineering disciplines

Bioengineering (BioE) or Biomedical Engineering (BME)

This discipline utilizes engineering concepts in order to analyze and solve medical problems. Engineers in this field are mainly involved in the development of new technology, and equipment aimed at addressing medical issues. They are mainly employed in medical research facilities, schools, and hospitals.

Biosystems Engineering (BE)

This discipline fused both engineering concepts and biological concepts. Engineers in this field work in the biological production of drugs, and fuels. They are also involved in the development of biotechnology as well as measures to improve the environment and natural resources.

Chemical Engineering (ChE)

This discipline is mainly involved in the production and manufacture of chemicals that find uses in pharmaceuticals, home products, fuels, food, synthetic fibers, and other products. They also work on issues regarding environmental sustainability.

Civil Engineering (CE)

Civil Engineering mainly involves the planning, designing, construction, and maintenance of facilities such as buildings, roads, water distribution systems, and bridges.

Computer Engineering (CpE)

Computer engineers are involved in the design and development of both computer software and hardware. They are mainly involved in the development of digital devices used in computing.

Electrical Engineering (EE)

This engineering discipline mainly involves a number of tasks, which range from the generation and distribution of power. They are also involved in control systems, telecommunication, robotics, and integrated systems design.

Industrial Engineering (IE)

Engineers in this field are mainly involved in the improvement of industrial systems. They utilize both mathematics and physics in order to design and implement complex industrial systems involved in the manufacture of goods.

Material Science Engineering

This field of engineering focuses on studying the properties of materials in order to determine their suitability. Such materials find use in other engineering fields such as electrical, civil and aerospace engineering.

Mechanical engineering

This discipline involves the design of machines, construction, and materials. They are also involved in manufacturing, energy production, and industrial sensors.

5 engineering jobs that are interesting to me:

- 1.
- 2.
- 3.
- 4.
- 5.

Compare and Contrast the required and desirable knowledge and skills listed in the 5 job postings.

For all the five postings, the basic requirement is a Bachelor's degree a relevant engineering field. All the job postings also require the engineer to be able to collaborate with other project members as well as client. This shows that engineering is a collaborative field where an individual must be

ready to work with others as a team. The job postings also require one to have work experience within the engineering field.