



PDHonline Course G470 (1 PDH)

Mentoring the Engineering Intern

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ATTACHMENT A

In the early part of the last century (1900's) an engineer was a specialist in *engineering* and was expected to be proficient in all types of engineering; there were no Mechanical Engineers, Electrical Engineers, Civil Engineers or Automotive Engineers, there was only "The Engineer" who was "all things engineering to all people".

Today you can study any of the following fields of engineering:

Acoustical engineering	Aquatic and environmental engineering	Aerospace
Aeronautical engineering	Agricultural engineering	
Architectural engineering	Automotive engineering	
Biological engineering	Biological systems engineering	
Biomechanical engineering	Biomedical engineering	
Biomaterials engineering	Bioresource engineering	
Bridge engineering	Ceramic Technology	
Chemical engineering	Civil engineering	
Communications system engineering	Computer engineering	
Construction engineering	Controls engineering	
Cost engineering	Demolitions engineering	
Drilling engineering	Earthquake engineering	
Ecological engineering	Electrical engineering	
Electromechanical engineering	Engineering science and mechanics	
Engineering physics	Environmental engineering	
Fire protection engineering	Food Technology	
Forensic engineering	Forest Technology	
Genetic engineering	Geomatics engineering	
Geotechnical engineering	Hydraulic engineering	
Heating, Ventilation and Air Conditioning engineering		
Industrial engineering	Information engineering	
Instrumentation engineering	Landscape engineering	
Marine engineering	Materials engineering	
Mechanical engineering	Manufacturing engineering	
Microsystems engineering	Military engineering	
Minerals process engineering	Mineral engineering	
Mining engineering	Nanotechnology	
Neural engineering	Green engineering	
Nuclear engineering	Ocean engineering	
Optical engineering	Packaging technology	
Paper technology	Pharmaceutical engineering	
Photovoltaics engineering	Petroleum engineering	
Plastics engineering	Polymer engineering	
Power engineering	Power Transmission Engineering	
Process engineering	Prosthetics engineering	
Pressure Vessel engineering	Piping engineering	
Quality engineering	Refinery engineering	

Railway engineering
Safety engineering
Security engineering
Software engineering
Storm Water Control
Systems engineering
Thermodynamic engineering
Tissue engineering
Transportation engineering
Vacuum engineering

Reliability engineering
Sanitation engineering
Sewage engineering
Structural engineering
Surveying
Textile engineering
Timber engineering
Traffic engineering
Tunnel engineering
Value engineering

There are several not shown above such as Combat Engineering, Munitions Engineering, Fortifications Engineering, etc. which are specific to the original term “engine” and are related to making war.

Considering that many fields may have been left out that still offers the intern more than ninety (90) possibilities for a career in engineering.

Most students will major in one of four major fields: Mechanical, Electrical, Civil or Chemical Engineering. From these four fields it is relatively easy to move into the more specialized engineering fields as shown below.

Mechanical Engineering leads directly to:

Acoustical Engineering
Automotive Engineering
Biomedical Engineering
Electromechanical Engineering
Hydraulic Engineering
Materials Engineering

Aerospace Engineering
Biomechanical Engineering
Construction Engineering
Engineering Science and Mechanics
Industrial Engineering
HVAC

Electrical Engineering leads directly to:

Biological Engineering
Computer Engineering
Industrial Engineering
Neural Engineering
Power Engineering
Systems engineering

Communications Engineering
Controls Engineering
Information Engineering
Photovoltaics Engineering
Power Transmission Engineering

Civil Engineering leads directly to:

Bridge Engineering
Demolition Engineering
Landscape Engineering
Railway Engineering

Construction Engineering
Earthquake Engineering
Mining Engineering

Chemical Engineering leads directly to:

Biological Engineering
Environmental Engineering
Minerals Processing Engineering
Pharmaceutical Engineering
Plastics Engineering
Refinery Engineering

Ecological Engineering
Fire Protection Engineering
Paper Technology Engineering
Petroleum Engineering
Polymer Engineering

Most areas of study can lead to any of the following:

Cost Engineering
Industrial Engineering
Reliability Engineering
Project Engineering

Forensics Engineering
Manufacturing Engineering
Safety Engineering
Project Management