ENGINEERING

Engineering is the practice of using natural science, mathematics, and the engineering design process to solve technical problems, increase efficiency and productivity, and improve systems. Modern engineering comprises many subfields which include designing and improving infrastructure, machinery, vehicles, electronics, materials, and energy systems. The creative application of scientific principles to design or develop structures, machines, apparatus, or manufacturing processes, or works utilizing them singly or in combination; or to construct or operate the same with full cognizance of their design; or to forecast their behavior under specific operating conditions; all as respects an

intended function, economics of operation and safety to life and property.

So you've decided to take up engineering, but you're not sure which type of engineer you want to be.

From building structures to the device you're using right now, engineering is everywhere! Engineering is such a broad field kaya gets namin kung hindi ka pa decided sa engineering course na gusto mo.

We're here to help you turn your vague dreams into specific action steps. Here's a list of engineering courses (in no particular order) and careers you can pursue in each field.

1. Industrial engineering (IE)

Mas madali at efficient ang buhay, thanks to industrial engineers! Industrial engineering is all about improving systems and streamlining production processes. As an IE student, you'll be learning how to maximize efficiency and limit waste in factories. Industrial engineers also streamline operating rooms and waste disposal systems.

Possible careers:

- Industrial engineer
- Manufacturing technician
- Quality assurance inspector
- Industrial designer

2. Chemical engineering

Chemical engineers develop and manufacture medicine, food products, fuel, and construction material. You'll be creating products that help people in their day-to-day lives. Kung favorite subject mo ang chemistry, then you should consider chemical engineering!

Possible careers:

- Food scientist
- Biotechnologist
- Chemical plant and system operator

3. Electrical engineering

If electronics *spark* your interest, dito ka na sa electrical engineering!

Electrical engineers design electrical equipment like electric motors, generators, navigation systems, and communication systems. This course applies physics and math to solve engineering problems.

Possible careers:

- Electrical engineer
- Telecommunications engineer
- Electronics engineer
- Power engineer

4. Civil engineering

Buildings, roads, at railways ba ang nai-imagine mo ‘pag sinabing “engineer”? Civil engineering ang specific na tawag sa field na ‘to! This course is about designing and constructing all kinds of infrastructure. Civil engineers also design waste networks and flood defense systems. Moreover, civil engineers help solve problems like population growth and climate change through effective infrastructure.

Possible careers:

- Engineering project manager
- Architect
- Land surveyor

5. Geodetic engineering

As a geodetic engineer, you'll get to work with cool-looking equipment like the total station! Ito ang gagamitin mo to plan for roads and buildings and measure angles and distance.

Geodetic engineering is a specialization under civil engineering. A geodetic engineer's job is to measure land, water, or air space. They then process the data and present it through maps, graphs, charts, and plans. Geodetic engineers may also compute highway alignments and property boundaries.

Possible careers:

- Geodetic engineer
- Land surveyor

6. Electronics and communications engineering (ECE)

ECE is the study of electronic communication systems, circuits, and computers. Electronic communications engineers design, test, and manage the production of communication systems. Our fast-paced world relies on smartphones, computers, and other communication systems. Kaya naman in-demand at mataas ang income potential sa ECE!

Industries in ECE include consumer electronics, IT, automotive, and telecommunication.

Possible careers:

- Electronics design engineer
- Software engineer
- Desktop support engineer

7. Mechanical Engineering

Na-inspire ka ba mag-robotics after manood ng Big Hero 6? Mechanical engineering yung course na pwede mo kuhanin! This course will teach you how to design, build, and repair machines. Specializations in mechanical engineering include marine engineering, aerospace engineering, and automobile engineering.

Possible careers:

- Mechanical engineer
- Mechanical designer
- Biomedical engineer

8. Computer engineering

Develop the next-gen smartphones or wearable tech through a career in computer engineering! Computer engineers design, develop, and build computer systems and parts.

Anong pinagkaiba ng computer science sa computer engineering? Computer science focuses on programming and software. Meanwhile, computer engineering focuses on electronics and hardware.

Possible careers:

- Hardware engineer
- Software engineer
- Web developer

9. Aeronautical engineering

Become an aeronautical engineer and fly high in your career! Aeronautical engineering is all about flight technology. Mapa aerodynamics o aircraft construction pa ‘yan.

Aeronautical engineers design aircraft and other flight-capable machines like commercial airplanes, military aircraft, spacecraft, satellites, and even missiles.

Possible careers:

- Aeronautical engineer
- Aerodynamics engineer
- Computer Numerically Controlled (CNC) programmer

10. Marine engineering

Kung may engineer for land and air, syempre meron din sa tubig! Marine engineers design, build, and maintain all sorts of boats, ships and sea vessels. Other marine engineers may even specialize in constructing and repairing submarines and tankers.

See yourself designing ships? Want to help make sea travel safer and more efficient? Marine engineering is the way to go.

Possible careers:

- Marine engineer
- Marine technician
- Naval architect