

ENGINEERING

Engineers use scientific principles to design the things we use and see around us. This includes buildings, structures, machines, bridges, vehicles (land and sea), tunnels, roads and other items. [1]

More common fields of engineering

- ❑ Civil-deals with building and structures
- ❑ Mechanical- their area of focus is everything machinery
- ❑ Electrical-everything electrical
- ❑ Chemical- combine the three sciences and engineering to carry out work. [5]

Sub-disciplinaries:

- Environmental: focus on factors affecting the environment, they protect the environment and resolve issues.
- Marine: focus on the machinery and equipment used at sea.
- Mechatronics: this combines the four major field of mechanical, engineering, civil and chemical engineering. This is necessary as only this combination is considered mechatronics, any other will mean zero functionality. [7]

Engineering is a broad field with different disciplines and some those overlaps, these are called interdisciplinary. [1]

Types of software used in the field of engineering but not limited to:

- MATLAB (Software for Numerical Computing):comprehensive software for numerical computing plus more.[9]
- ETAP (An Electrical Engineering Software for Power Systems):Power system solutions used for operating, distribution, design plus more. This include industrial, commercial, transport and transmissions sectors. [3]
- AutoCAD Electrical: Gives designers control with their creation, wiring, circuit building, and control systems changes. [6]
- LabView: A programming domain used by engineers to focus on the development, validation and computerised data collection and processing systems. [12]
- PSCAD: allows total creative freedom when building circuits, analysing results and data, all in a combine illustrative domain. [11]

Hardwares used in engineering

- **Assembly-** Hardware that is required to give a structure the means to hold its intended weight without collapsing due to fractures in the structure.
- **Electrical-** these are attachments or add-ons including but not limited to lights, cables, sensors, buzzers, pins and clamps
- **Finishing-** these are additional features that might enhance the appeal of the finished design. This might include a high-quality finish coating, suction pads or an added security feature.

This is engineering
Engineers create ideas and solve problems using maths and science.

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