

Although we tend to forget to appreciate the contributions of engineering in our daily life, it gets into every corner. Anytime we drive across a bridge, turn on a switch to light up, or make use of a mobile phone, we are utilizing the service of an engineer. Engineering simply, is ~~contr~~ combining science, mathematics and some imagination to arrive at a groundbreaking solution.

While a scientist would be satisfied with stopping at the question, "What is going on here?", the engineer would ask, "What can I build that is useful with the knowledge acquired?" To put it differently, whereas the physicist would spend time learning the rules that govern motion, the engineer will spend his or her time designing a roller coaster that demonstrates the principles or assembling an automobile that pulls the principles together.

A system is a group of individual parts that work together to do something or achieve a goal. Take the example of the car parts consisting of the engine, the brakes, the wheels, and the whole electrical system working

all out for the purpose of keeping the vehicle operational. Similarly, for the human body, the brain can also act as an autonomous organ looking for the heart and the lungs for its healthy operation. On the other hand, the same thing also holds true in that only with the combination of all these organs will the system function successfully.

System engineers focus on integration of various engineering elements. A systems engineer has concern for a complete schema of systems, e.g., an aircraft mechanical system for which another engineer takes care of the aircraft control systems. Both of these would require the consideration of systems engineers for right integration of the mechanical systems with each other. This is why a system engineer must possess a wide array of skills. They do not have to be a specialist in all areas, but have knowledge of each so they can see how everything comes together.

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