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Course: Maths151

**THE RELEVANCE OF MATHEMATICS IN ENGINEERING**

**Mathematics** is the science that deals with the logic of shape, quantity and arrangement. It could also be defined as the abstract science of number, quantity, and space, either as abstract concepts ( *pure mathematics* ), or as applied to other disciplines such as physics and engineering ( *applied mathematics* ).

**Engineers** are professionals who invent, design, analyse, build and test machines, complex systems, structures and materials to fulfil functional objectives and requirements for the benefit of man and to make our day-to-day activities easier.

Mathematical analysis for the innovation of anything is engineering. Maths is the language of engineering, the same way as individuals we cant communicate effectively without proper understanding of the language is the same way and engineer cannot be effective without adequately understanding the concept of mathematics and that understanding of mathematics is what makes the difference between an **ENGINEER** and a **TECHNICIAN**.

In mechanical engineering there are many areas like thermodynamic, vibrational mechanics, machine production all of which depend on mathematical equations and theories to find solutions to given tasks and properly design equipment capable of performing the task. Mathematics is a tool for solving engineering problems. If you have a tool and know how to use it well, then you can easily solve problems with it, so maths and engineering are hand in hand. It makes the solution process of engineering problems easier and engineering problems are reasons for the evolution of new mathematical techniques.

People ask if maths is really all that important however, the reality is that the vast majority of engineers after graduation work in one form of industry or the other and if you look closely at what they do day in day out you realize they have to be very good at algebra. Engineering isn’t all about being good in math but more about having a passion for understanding how things work and interact and these could be done through mathematical methods.

Mathematics provides a basic platform for the analysis and solving of engineering problems like the way a house is built on a foundation and without it the house wont stand. This is to show that many inventions and machines built today by engineers has some form of mathematical input which makes it to perform its function.

Basically, Engineers are mathematicians limited by the material’s behaviour ( thermal, mechanics, electrical etc) however mathematics has an open mind. In maths there is a famous word “find the limit of a function to infinity” , but in engineering we do not have infinity, we have numbers.