



Solid Mechanics

SWAYAM Prabha Course Code - C5

PROFESSOR'S NAME	Prof. Jay Ghosh
DEPARTMENT	Civil Department
INSTITUTE	Indian Institute of Technology, Bombay
Course Outline	<p>Solid Mechanics, also known as Mechanics of Materials or Strength of Materials is a branch of applied mechanics that deals with the behaviour of solid bodies subjected to various types of loading. The principal objective of mechanics of materials is to determine the stresses, strains, and displacements in structures and their components due to the loads acting on them. Understanding these characteristics helps to gain insight into the behaviour of structures under normal circumstances as well as during extreme events. Mechanics of Materials constitutes a fundamental course for students belonging to civil, mechanical, aerospace, biomedical, petroleum, and nuclear engineering. Furthermore, many students from such diverse fields as materials science, industrial engineering, and architecture, also find it useful to study mechanics of materials. The theoretical basis of this subject dates back to early seventeenth century and active research on various aspects of Solid Mechanics, also known as Mechanics of Materials or Strength of Materials is a branch of applied mechanics that deals with the behaviour of solid bodies subjected to various types of loading. The principal objective of mechanics of materials is to determine the stresses, strains, and displacements in structures and their components due to the loads acting on them. Understanding these characteristics helps to gain insight into the behaviour of structures under normal circumstances as well as during extreme events. Mechanics of Materials constitutes a fundamental course for students belonging to civil, mechanical, aerospace, biomedical, petroleum, and nuclear engineering. Furthermore, many students from such diverse fields as</p>

	<p>materials science, industrial engineering, and architecture, also find it useful to study mechanics of materials. The theoretical basis of this subject dates back to early seventeenth century and active research on various aspects of Solid Mechanics continues till today.f Solid Mechanics continues till today.</p>
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COURSE DETAILS

S. No	Module ID/ Lecture ID	Lecture Title/Topic
1	L1	Review of Statics
2	L2	Concept of Stresses and Strain
3	L3	Axially Loaded Members
4	L4	Non Uniform Axial Loading Problems
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References if Any: