

MT 447 FINITE ELEMENT ANALYSIS & CAD LAB**Course Description & Objectives:**

This lab is meant for the development of modeling and analysis skills of the machine components using software. This enables the students basic idea regarding modeling activities that are carried in present industries using modeling software.

Course Outcomes:

At the end of the course, the student would be able to understand static analysis and dynamic analysis of simple systems. At the same time students could use different CAD commands for modeling purposes.

LIST OF EXPERIMENTS:**Finite Element Analysis:**

1. Study of FEM packages
2. One dimensional linear static analysis of simple systems
3. Two dimensional linear static analysis of simple systems
4. Dynamic analysis of simple systems
5. Simple problems in heat transfer
6. Simple problems in fluid mechanics

CAD:

1. Demonstration and use of CAD commands; Scaling, rotation, translation, editing, dimensioning, CAD command structure.
2. Wire frame modeling
3. Surface modeling
4. Solid Modeling.
5. Computer aided modeling of typical machine components like valves, IC Engine components and Gears