

II Year B.Tech. Mechanical Engg. II-Semester	L	T	P	To	C
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SR002 SEMINAR

Course Description & Objective:

Seminar is offered as an opportunity for graduate students to broaden their knowledge beyond their specific area of research and/or studies. This is important at and beyond the graduate level where our activities are highly focused and specialized from a topical perspective.

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ME332 MODELING AND SIMULATION 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:

1. Students will expertise on modelling tools, for drawing machine components on computer screen.
2. Students will gain the knowledge on 3D and assemble drawings of machine components, which helps to understanding its functioning.
3. Students will expertise on simulation software, for analyzing machine components.
4. Students will gain the knowledge on structural, thermal and modal analysis.
5. The graphical and animation of the simulation results helps to the students, to understanding the load or its functional effects on machine components.

MODELING :

1. **Sketcher:** Development of part drawings for various components in the form of orthographic and isometric. Constraining the drawings. Study of blueprints.

2. **3-D Modeling:** Generation of various 3D models through protrusion, revolve, shell sweep. Creation of various features. Study of parent child relation. Feature based and Boolean based modeling surface.
3. **Assembly:** Assembly modeling, study of various standard assembly operations. Assembling of simple components like Bolt & Nut, Sleeve and cotter joint, Knuckle Joint, shaft with journal bearing.
4. **Sheet metal work:** Basic sheet metal operations, making different sheet metal patterns.

SIMULATION :

1. Static Analysis of Plane Truss
2. Static Analysis of Thick cylinder using 2D axis symmetry
3. Analysis of a plate with center hole
4. Free vibrations analysis of a simply supported beam.
5. Steady state heat transfer in square plate
6. Analysis of plate with center hole at quarter section
7. Static analysis of simple plane truss
8. Steady state heat transfer in composite plate
9. Static analysis of thick cylinder using 3D
10. Analysis of cantilever beam with point load at its end.

III Year B.Tech. Mechanical Engg. II-Semester

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ME334 MINIPROJECT**Course Description & Objective:**

The main objective of this miniproject is to enable the students analytical and practical exposure by giving the targets like Hands on work, also it is very much essential before the students allow into the main curriculum project work.