ME308ES: METALLURGY AND MATERIAL SCIENCE LAB

B.Tech. II Year I Sem.	L	T/P/D	C
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Course Objective: The purpose of this course is to make the students learn the concepts of Metallurgy and Material Science role in all manufacturing processes which convert raw materials into useful products adapted to human needs.

Course Outcomes: The Primary focus of the Metallurgy and Material science program is to provide undergraduates with a fundamental knowledge based associated materials properties, and their selection and application. Upon graduation, students would have acquired and developed the necessary background and skills for successful careers in the materials-related industries. Furthermore, after completing the program, the student should be well prepared for management positions in industry or continued education toward a graduate degree.

List of Experiments:

1. Preparation and study of crystal models for simple cubic, body centred cubic, face centred cubic and hexagonal close packed structures.
2. Preparation and study of the Microstructure of pure metals like Iron, Cu and Al.
3. Grain size measurement by different methods.
4. Preparation and study of the Microstructure of Mild steels, low carbon steels, high – C steels.
5. Study of the Microstructures of Cast Irons.
6. Study of Microstructures of different alloy steels.
7. Study of the Microstructures of Non-Ferrous alloys.
8. Study of the Microstructures of Heat treated steels.
9. Hardenability of steels by Jominy End Quench Test.
10. To find out the hardness of various heat treated and untreated plain carbon steels.