

<b>Course Title</b> Engineering Materials	<b>Course Code</b> ME-221	<b>Credit Hours</b> 3 – 0
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**Text Book:**

- Material Science and Engineering-An Introduction by William D. Callister, Jr. John Wiley & sons Inc. (latest edition)

**Reference Books:**

- J. T. Black , Ronald A. Kohser, DeGarmo's Materials and Processes in Manufacturing, Wiley
- Roy A. Lindberg, Processes and Materials of Manufacturing

**Course Objective:**

Understand the fundamental properties, behaviors, and applications of engineering materials crucial for designing innovative and sustainable engineering solutions.

**Course Outlines**

- Introduction to Materials Science and Engineering
- Atomic Bonding
- Structure of Crystalline Solids
- Imperfections in Solids
- Phase Diagrams
- Phase Transformation and Development of Microstructures
- Applications and Processing of Metallic Materials
- Structure, Properties and Applications of Polymer Materials
- Composite Materials
- Corrosion and degradation of Materials

Description	Percentage Weightage (%)
Assignments	05-10%
Quizzes	10-15%
Mid Semester Exams	30-40%
End Semester <b>ASSESSMENTS</b> Exam	40-50%