Pimpri Chinchwad Education Trust's
Pimpri Chinchwad College of Engineering
Sector No. 26, Pradhikaran,
Nigdi, Pune – 411 044

ISO 9001 Certified

COURSE OUTLINE

Department: Mechanical Engineering A.Y.:2021-22 Sem-I Date:

Class: S. Y. B. Tech. Name of the Course: Materials Engineering

Relevance of the course:

One of the objectives of mechanical engineering program is to develop the ability to design mechanical and thermal systems or a process that meets desired specifications and requirements. In order to attain this objective it necessary that student should be able to select right material for given application as material properties will govern system or process performance. Course provides sound theoretical and practical background which helps students to sustain in today's competitive era of high industrial developments, advancement in material & research.

Course Outcomes

CO No	CO Statement	No. of Lectures Planned	No. of Practical planned	Content Delivery method	Assessment tools Planned
	The Students will be able to,				
1.	Correlate crystal structures and imperfections in crystals with mechanical behavior of materials.	6		Lecture with interaction, Flipped class	Midsem
2.	Apply fundamentals of alloying and equilibrium diagram to predict phases and their amounts.	6		Lecture with interaction, Flipped class	Mid-Term Exam
3.	Correlate microstructure and properties of various ferrous alloys.	6	1	Lecture with interaction, Flipped class	Mid-Term Exam
4.	Correlate microstructure and properties of various nonferrous alloys.	6	1	Lecture with interaction, Flipped class	End-Term Exam
5.	Select appropriate heat treatment based on desired applications.	6	1	Lecture with interaction, Flipped class	End-Term Exam

6.	Use various material standards and select appropriate material for given application	6		Lecture with interaction, Flipped class	Assignment End-Term Exam

Assignment:

Assignment Planned	CO Mapped	Tentative schedule
Selection of material for given application	CO6	11/01/2022

Mini Project topics offered:

a. Model making for lab display

Industry visit/ Case studies planned: -

Guest Lecture/ Co Teaching:

Photograph	Photograph	Photograph
Course Faculty SY A	Course Faculty SY B	Course Faculty SY C
	Course Coordinator	