



UNIVERSITY OF HYDERABAD

SCHOOL OF ENGINEERING SCIENCES AND TECHNOLOGY

Curriculum

I.M.Tech Materials Engineering

2025-26 admission batch

Sem	S. No	Course Title	Credits	Category	Offering Academic Unit
1	1	English	3	HSC	CELS
	2	Principles of Engineering & Sustainability	4	ESC	SEST
	3	Engineering Mathematics - 1	3	BSC	S. Mathematics & Statistics
	4	Problem Solving & Programming	3	ESC	SCIS
	5	Problem Solving & Programming Lab	2	ESC	SCIS
	6	Engineering Physics - 1	3	BSC	SEST
	7	Basic Engineering Lab - 1	2	ESC	SEST & SCIS
2	1	Introduction to Materials Engineering	3	ESC	SEST
	2	Engineering Mathematics - 2	3	BSC	S. Mathematics & Statistics
	3	Creativity and Innovation	3	OS	SEST
	4	Basic Engineering Lab - 2	2	ESC	SEST
	5	Engineering Physics - 2	3	BSC	SEST
	6	Engineering Chemistry	3	BSC	SEST
	7	Engineering Drawing	4	ESC	SEST
3	1	Physical Metallurgy	4	PCC	SEST
	2	Principles of Mechanical Metallurgy	3	PCC	SEST
	3	Functional Behaviour of Materials	3	PCC	SEST
	4	Semiconductor Materials and Devices	3	PCC	SEST
	5	Physical Metallurgy Lab	2	PCC	SEST
	6	Introduction to Ceramics	3	PEC	SEST
	7	Skill Development Lab	2	ESC	SCIS
4	1	Transport Phenomena	3	PEC	SEST (SWAYAM-NPTEL)
	2	UHV-II	3	HSC	SEST
	3	Diffusion, Kinetics and Phase Transformations	3	PCC	SEST
	4	Mechanical Behaviour of Engineering Materials	4	PCC	SEST
	5	Principles of Extractive Metallurgy	3	PCC	SEST
	6	Phase transformations Lab	2	PCC	SEST

	7	Mechanical testing Lab	2	PCC	SEST
5	1	Materials Processing - 1	3	PCC	SEST
	2	Industrial Engineering & Operations Research	3	HSC	SEST (SWAYAM-NPTEL)
	3	Materials Processing Lab - 1	2	PCC	SEST
	4	Materials Characterization Methods - 1	3	PCC	SEST
	5	Materials Characterization Lab - 1	2	PCC	SEST
	6	Corrosion Engineering	4	PCC	SEST
	7	Numerical Methods for Engineers	4	PEC	SEST (SWAYAM-NPTEL)
6	1	Materials Characterization Methods - 2	3	PCC	SEST
	2	Introduction to Environmental Engineering and Science - Fundamental and Sustainability Concepts	3	ESC	SEST (SWAYAM-NPTEL)
	3	Materials Characterization Lab - 2	2	PCC	SEST
	4	Materials Processing - 2	3	PCC	SEST
	5	Modelling and problem solving in Materials Engineering	4	PEC	SEST
	6	Polymers and Composites	3	PCC	SEST
	7	Materials Processing Lab - 2	2	PCC	SEST
	8	Indian Constitution	0	MC	SEST (SWAYAM)
7	1	Design and Selection of Materials	3	PCC	SEST
	2	Artificial Intelligence and Machine Learning in Materials Engineering / Computational Materials Engineering / Computational Thermodynamics and Kinetics	4	PEC	SEST (SWAYAM-NPTEL)
	3	Iron and Steel Making	3	PCC	SEST
	4	Non-Destructive Testing	3	PCC	SEST
	5	Foundations of Accounting & Finance	4	OS	SEST (SWAYAM-NPTEL)
	6	Indian Knowledge System	0	MC	SEST (SWAYAM)
	7	Internship (completed in summer break: technical report + attendance report from the host)	3	Project	SEST
8	1	Dealing with materials data: collection, analysis and interpretation / Elements of Nanoscience & Technology	3	PEC	SEST (SWAYAM-NPTEL)/SEST
	2	Entrepreneurship Essentials	3	OS	SEST (SWAYAM-NPTEL)
	3	Surface Engineering	4	PEC	SEST
	4	Mini Project	10	Project	SEST/Industry/Research Institute

9	1	I.M.Tech. Project (Literature review + Problem definition + Experimental/theoretical work) – Continuous Assessment	10	Project	SEST/SEST+Collaboration
	2	Mini Report (Introduction+Literature Review+ Problem Definition+ Objectives) + I.M.Tech. Project seminar	10	Project	SEST/SEST+Collaboration
		Mid-Term Evaluation	20 (above 10+10)		
10	1	I.M.Tech. Project (continuation of experimental/theoretical work from the previous semester) + Thesis writing)	12	Project	SEST/SEST+Collaboration
	2	I.M.Tech. Seminar + Viva Voce Exam	8	Project	SEST/SEST+Collaboration
	3	Semester-10 Evaluation	20 (above 12+8)		
		I.M.Tech. Project (Sem 9+10) Evaluation	20 (Sem9) + 20 (Sem10)		