COEP Technological University Pune

(A Unitary Public University of Govt. of Maharashtra)

School of Engineering and Technology

Curriculum Structure

M.Tech. Materials Engineering

Department of Metallurgy and Materials Engineering

(Effective from: A.Y. 2025-26)

List of Abbreviations

Abbreviation	Title
AEC	Ability Enhancement Course
BS	Basic Science Course
ESC	Engineering Science Course
PCC	Programme Core Course
PEC	Programme Elective Course
PSMC	Programme Specific Mathematics Course
PSBC	Programme Specific Bridge Course
OE/SE	Open/School Elective other than particular program
MDM	Multidisciplinary Minor
VSEC	Vocational and Skill Enhancement Course
HSMC	Humanities Social Science and Management
IKS	Indian Knowledge System
VEC	Value Education Course
RM	Research Methodology
INTR	Internship
PBL	Project
CEA	Community Engagement Activity/Field Project
CCA	Co-curricular & Extracurricular Activities
SLC	Self-Learning Course
MLC	Mandatory Learning Course
LC	Laboratory Course

F. Y. M. Tech. Materials Engineering

Semester -I

Sr. No.	Course Type	Course Code	Course Name	L	T	P	S	Cr	Evaluation Scheme (Weightages in %)				
									Theory			Laboratory	
									MSE	TA	ESE	ISE	ESE
01	PSMC	<tbd>	Thermodynamics of Materials	3	1	0	1	4	30	20	50	-	-
02	PSBC	<tbd>	Electronic Materials	3	0	0	1	3	30	20	50	-	-
03	PCC	<tbd>	Corrosion Engineering	3	0	0	1	3	30	20	50	-	-
04	PCC	<tbd>	Phase Transformation in Materials	3	1	0	1	4	30	20	50	-	-
05	PEC-I	<tbd>	Ceramic Engineering Nanomaterials Engineering Quantum Materials Simulation and Modelling	3	0	0	1	3	30	20	50	-	-
06	AEC-I	<tbd>	Composite Materials	3	0	0	1	3	30	20	50	-	-
07	LC-I	<tbd>	Lab Practice-I	0	0	4	2	2	-	-	-	CIE: 100	
08	LC-II	<tbd>	Seminar-I	0	0	4	2	2	-	-	-	CIE: 100	
Total				**18**	**02**	**08**	**10**	**24**					

Legends: L-Lecture, T-Tutorial, P-Practical, S-Self Study, Cr-Credits
ISE-In-Semester-Evaluation, ESE-End-Semester-Evaluation, MSE-Mid-Semester-Evaluation, TA-Teachers' Assessment, CIE-Continuous-Internal-Evaluation

Semester -II

Sr. No.	Course Type	Course Code	Course Name	L	T	P	S	Cr	Evaluation Scheme (Weightages in %)				
									Theory			Laboratory	
									MSE	TA	ESE	ISE	ESE
01	PCC	<tbd>	Thermomechanical Processing	3	0	0	1	3	30	20	50	-	-
02	PCC	<tbd>	Surface Coating Technology	3	0	0	1	3	30	20	50	-	-
03	PEC-II	<tbd>	Fracture Mechanics Light Metals and Alloys Amorphous Materials Crystallographic Texture in Materials	3	0	0	1	3	30	20	50	-	-
04	PEC-III	<tbd>	High Temperature Corrosion Semiconductor Materials Smart Materials and Structures Biomaterials	3	0	0	1	3	30	20	50	-	-
05	PCC	<tbd>	Open Elective	3	0	0	1	3	30	20	50	-	-
06	OE	<tbd>	Research Methodology and Intellectual Property Rights	2	0	0	1	0	-	-	-	-	-
07	MDM-I	<tbd>	Effective Technical Communication Skills	1	0	0	1	0	-	-	-	-	-
08	VSEC	<tbd>	Lab Practice-II	0	0	4	2	2	-	-	-	CIE:100	
09	HSMC	<tbd>	Seminar-II	0	0	4	2	2	-	-	-	CIE:100	
10	VEC-II	<tbd>	Liberal Learning Course	0	0	0	2	1	-	-	-	CIE:100	
			Total	**18**	**00**	**08**	**13**	**20**					

Legends: L-Lecture, T-Tutorial, P-Practical, S-Self Study, Cr-Credits
ISE-In-Semester-Evaluation, ESE-End-Semester-Evaluation, MSE-Mid-Semester-Evaluation, TA-Teachers' Assessment, CIE-Continuous-Internal-Evaluation

Exit option to qualify for PG Diploma in Materials Engineering:

Sr. No.	Course Type	Course Code	Course Name	L	T	P	S	Cr	Evaluation Scheme (Weightages in %)				
									Theory			Laboratory	
									MSE	TA	ESE	ISE	ESE
01	Exit Course	*<tbd>*	Eight Weeks Domain Specific Industrial Internship	--	--	--	--	03	--	--	--	CIE: 100	
			Total	**--**	**--**	**--**	**--**	**03**					

S. Y. M. Tech. Materials Engineering

Semester -III

Sr. No.	Course Type	Course Code	Course Name	L	T	P	S	Cr	Evaluation Scheme (Weightages in %)				
									Theory			Laboratory	
									MSE	TA	ESE	ISE	ESE
01	SLC-I	*<tbd>*	Massive Open Online Course-I (MOOC-I)#	--	--	--	--	3	40	--	60	--	--
02	VSEC	*<tbd>*	Dissertation Phase-I	--	--	18	12	9	--	--	--	CIE: 100	
			Total	**00**	**00**	**18**	**12**	**12**					

Semester -IV

Sr. No.	Course Type	Course Code	Course Name	L	T	P	S	Cr	Evaluation Scheme (Weightages in %)				
									Theory			Laboratory	
									MSE	TA	ESE	ISE	ESE
01	SLC-II	*<tbd>*	Massive Open Online Course-II (MOOC-II)#	--	--	--	--	3	40	--	60	--	--
02	VSEC	*<tbd>*	Dissertation Phase-II	--	--	18	12	9	--	--	--	50	50
			Total	**00**	**00**	**18**	**12**	**12**					

Legends: L-Lecture, T-Tutorial, P-Practical, S-Self Study, Cr-Credits
ISE-In-Semester-Evaluation, ESE-End-Semester-Evaluation, MSE-Mid-Semester-Evaluation, TA-Teachers' Assessment, CIE-Continuous-Internal-Evaluation

#Students are encouraged to take NPTEL online courses relevant to the field of specialization and dissertation (in consultation with dissertation/project supervisor). The evaluation of such courses will be done at university level based on the scores obtained in Assignments and Proctored Exam (on NPTEL Portal) as per the university directives. It is also mandatory for the students to pass the final Proctored Exam (on NPTEL Portal) and produce the passing certificate (obtained from NPTEL portal) to the respective department at the time of ESE/final evaluation.