

COEP Technological University Pune

(A Unitary Public University of Govt. of Maharashtra)

NEP 2020 Compliant

Proposed Curriculum Structure

M. Tech.

Electronics – Embedded System and Computing

(Effective from: A.Y. 2026-27)

PG Program [M. Tech. Electronics – Embedded System and Computing]
Proposed Curriculum Structure
W. e. f AY 2026-27

List of Abbreviations

Abbreviation	Title	No of courses	Credits	% of Credits
PSMC	Program Specific Mathematics Course	1	4	5 %
PSBC	Program Specific Bridge Course	1	3	3.75 %
PCC	Program Core Course	6	24	30 %
PEC	Program Specific Elective Course	3	9	11.25 %
VSEC	Vocational and Skill Enhancement Course	2	22	27.5 %
OE	Open Elective	1	3	3.75 %
SLC	Self-Learning Course	2	6	7.5 %
MLC	Mandatory Learning Course	2	5	6.25
LLC	Liberal Learning Course	1	1	1.25 %

OJT	Internship	1	3	3.75
Total		20	80	100%

PG Program [M. Tech. Electronics – Embedded System and Computing]
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Semester I

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1.	PSMC	PSMC01	Statistics, Probability, Graph and Field Theory	3	1	--	1	4
2.	PSBC	PSBC01	Advanced Digital Design	2	--	2	1	3
3.	PCC	PCC-01	IoT Architecture and Computing	3	--	2	1	4
4.	PCC	PCC-02	Processors and Controllers: Architecture and application programming	3	--	2	1	4
5.	PCC	PCC-03	Software Tools for Embedded system and Edge computing	3	--	2	1	4
6.	PEC	PEC-01	Program Specific Elective –I a) Advanced Digital Signal and Image Processing b) Hardware and Software Co-Design (Advanced Digital Design) c) IoT sensors-actuators and Communication protocols d) Automotive Embedded Product Development *	3	--	--	1	3
7.	MLC	MLC-02	Technical Communication Skills	1	--	2	1	2
Total				18	01	10	7	24

- • Note: ‘*’ Industry based Elective Courses to be offered for selective students.

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Semester II

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1.	OE	OE-01	Open Elective Networked Embedded System Design	3	--	--	1	3
2.	PCC	PCC-03	Embedded System Security	3	--	2	2	4
3.	PCC	PCC-04	Embedded Operating system	3	--	2	2	4
4.	PCC	PCC-05	Data analytics on Edge Computing	2	1	2	2	4
5.	PEC	PEC-02	Program Specific Elective –II a) AD-CMOS b) Cloud Computing c) AI-ML d) Automotive Embedded Hardware Development *	3	--	--	1	3
6.	PEC	PEC-03	Program Specific Elective –III a) Advanced VLSI architecture b) SCADA systems Applications c) Wireless Sensor Network d) Automotive Embedded Software Development *	3	--	--	1	3
7.	MLC	MLC-01	Research Methodology and Intellectual Property Rights	2	1	--	1	3
8.	LLC	LLC-01	Liberal Learning Course	--	--	2	2	1
Total				19	02	08	12	25

- • Note: ‘*’ Industry based Elective Courses to be offered for selective students.
- • ☐ Exit option to qualify for PG Diploma in Embedded System and Computing.
- • Eight weeks domain specific industrial internship in the month of June-July after successfully completing first year of the program.

PG Program [M. Tech.– Embedded System and Computing]

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Semester-III

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1.	VSEC	VSEC01	Dissertation Phase – I	--	--	18	12	11
2.	SLC	SLC-01	Massive Open Online Course –I	3	--	--	3	3
3.	SLC	SLC-02	Massive Open Online Course –II	3	--	--	3	3
4.	OJT		Internship	--	--	--	--	3
Total				3	--	18	15	20

Semester-IV

Sr. No.	Course Category	Course Code	Course Name	Teaching Scheme				Credits
				L	T	P	S	
1.	VSEC	VSEC02	Dissertation Phase – II	--	--	18	12	11
Total				3	--	18	15	11

- • MOOC Courses Identified:
- Real Time Embedded Systems
 - CMOS Design
 - Edge Computing
 - Advanced IOT Applications