

Branch Code: EE1

M.Tech. in ELECTRICAL ENGINEERING STREAM: COMMUNICATIONS AND SIGNAL PROCESSING 2018 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1		MTech core I [^]	4	0	0	0	8	12
2		MTech core II [^]	4	0	0	0	8	12
3		MTech core III [^]	4	0	0	0	8	12
4		MTech core IV [^]	4	0	0	0	8	12
		Total	16	0	0	0	32	48

[^] Total number of core credits must be at least 48. Core courses are to be taken from the following basket of core courses (courses can be added to this basket with HOD approval):

No.	Course No.	Title	L	T	E	P	O	C
1	EE5110	Probability Foundations for Electrical Engineers	4	0	0	0	8	12
2	EE5120	Applied Linear Algebra I for EE	4	0	0	0	8	12
3	EE5130	Digital signal processing	4	0	0	0	8	12
4	EE5151	Communication techniques	4	0	0	0	8	12
5	EE5140	Digital modulation and coding	4	0	0	0	8	12
6	EE5150	Communication Networks	4	0	0	0	8	12
7	EE5505	Wave propagation in communications	4	0	0	0	8	12
8	EE5500	Introduction to photonics	4	0	0	0	8	12
9	EE5142	Introduction to Information Theory and Coding	4	0	0	0	8	12
10	EE5153	Foundations of Optical Networking	4	0	0	0	8	12

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1		Electives**	0	0	0	0	0	0

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	EE6901	Project I	0	0	0	0	25	25

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	EE6902	Project II	0	0	0	0	30	30
2		Electives**						

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	EE6903	Project III	0	0	0	0	30	30
		Total						30

Semester	I	II	Summer	III	IV	Total
Credits	48	0**	25	30**	30	190

** Indicated credits are only for core programme. In addition, **57 credits of electives** have to be taken. Of these 57 elective credits, 45 credits of electives have to be taken from Elec. Engg. (or equivalent) at the 5000 level or higher, and 12 credits can be taken in any department at the 5000 level or higher. All elective lab courses will also be eligible. Courses from the core basket can also be taken as electives after the minimum requirement for core courses are satisfied.

The EE Department proposes to split the M.Tech project into two phases --- Project Phase-1 carrying 55-credits (to be carried out usually over the summer and the odd semester), and Project Phase-2 carrying 30-credits (to be carried out in the even semester).

Project Phase-1 is mandated for all students. On the other hand, Project Phase-2, which is the continuation of Phase-1, can be pursued only if it is approved by the evaluation committee.

At the end of Project Phase-1, the student should submit a report and make a presentation. The committee will then recommend whether or not the student is eligible to pursue Project Phase-2. If the student is not found eligible, additional course work has to be done so as to meet the total credit requirements for obtaining the M.Tech degree.

The list of electives is:

EE5111 Estimation Theory
EE5112 Detection Theory
EE5113 Detection and Estimation Theory
EE5121 Convex Optimization
EE5122 Applied Linear Algebra II for EE
EE5131 Selected Topics in Digital Signal Processing
EE5141 Introduction to Wireless and Cellular Communication
EE5143 Information Theory
EE5152 Broadband Communication Systems
EE5153 Foundations of Optical Networking
EE5154 Complex Network Analysis
EE5155 Wireless Networks
EE5156 Internet of Things and Management of Discrete Entities
EE5160 Error Control Coding
EE5161 Modern Coding Theory
EE5162 Topics in Information Theory
EE5163 Digital Signal Compression
EE5170 Speech Signal Processing
EE5175 Image Signal Processing
EE6110 Adaptive Signal Processing
EE6111 Spectral Estimation
EE6112 Topics in Random Processes and Concentrations
EE6130 Advanced Topics in Signal Processing
EE6131 Digital Filter Design
EE6132 Advanced Topics in Signal Processing
EE6133 Multirate Digital Signal Processing
EE6140 Multi-Antenna Digital Communications
EE6141 Multicarrier Communications
EE6142 Advanced Topics in Communications
EE6143 Advanced Topics in Communications
EE6150 Stochastic Modeling and the Theory of Queues
EE6151 Advanced Topics in Networks
EE6152 Advanced Topics in Networks
EE6180 Advanced Topics in Artificial Intelligence
EE6181 Advanced Topics in Artificial Intelligence