CURRICULUM
M.TECH. ELECTRONICS & COMMUNICATION ENGINEERING
CHOICE BASED CREDIT SYSTEM

STUDENTS LEARNING OUTCOMES

The curriculum and syllabi of M.Tech. Electronics & Communication Engineering Program (2017-18) conform to Outcome Based Education (OBE) for a flexible and structured Choice Based Credit system (CBCS). In general, ELEVEN STUDENT OUTCOMES (a-k) have been identified and the curriculum and syllabi have been chosen in such a way that each of the modules meets one or more of these outcomes. Student outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire as they progress through the program. Further, each module in the program spells out clear instructional objectives which are mapped to the student outcomes.

The Student Outcomes are:

(a) Ability to apply knowledge of Mathematics and science in Electronics and Communication Engineering solutions.
(b) Ability to understand the Engineering concepts and their applications using the acquired broad based knowledge.
(c) Ability to design, set up and conduct relevant experiments as well as to analyze and interpret data.
(d) Ability to use the techniques, skills, and modern Engineering hardware and software tools necessary for engineering practice.
(e) Ability to identify, analyze and solve problems in related multiple areas including VLSI design, signal processing, communication system and formulate requirements of circuit design and fabrication.
(f) Ability to design a system, component or process to meet desired needs within realistic constraints such as health & safety, economic, aesthetic, environmental, social, ethical, reliability and sustainability.
(g) Ability to apply Enterprise level application software for design of engineering product/process.
(h) Ability to function as consultant in industry for the design of Electronic circuits / Products and providing reliable solutions.
(i) An understanding of professional and ethical responsibility.
(j) Ability to communicate effectively in diverse groups and exhibit leadership qualities.
(k) To develop an understanding on global environment and its protection.

M. TECH ELECTRONICS AND COMMUNICATION ENGINEERII

SUMMARY OF PROGRAM CURRICULUM

Category	Total Number of Credits (M.Tech)	Percentage of Total credits
Program Core (PC)	44	59%
Program Elective (PE)	8	11%
Generic Elective (GE)	8	11%
Seminar & Special Problem (SP)	2	3%
Dissertation (DI)	12	16%
TOTAL	74	100%

PROGRAM SCHEME

SEMESTER-I

MODULE CODE	SUB-CATEGORY	MODULE	L	T	P	C	INTERNAL MARKS	EXTERNAL MARKS	TOTAL
ECEN5101	PC	ADVANCED DIGITAL SIGNAL PROCESSING	4	0	0	4	50	100	150
ECEN5102	PC	COMPUTER COMMUNICATION	3	0	0	3	25	75	100
ECEN5103	PC	ADVANCED SATELLITE COMMUNICATION	3	0	0	3	25	75	100
ECEN5104	PC	ADVANCED SATELLITE COMMUNICATION LAB	0	0	2	1	25	25	50
ECEN5105	PC	ADVANCED MICROPROCESSOR AND	4	0	0	4	50	100	150
ECEN5106	PC	ADVANCED MICROPROCESSOR AND	0	0	2	1	25	25	50
ECEN5107	SP	SPECIAL PROBLEM	0	0	2	1	25	25	50
	GE	ELECTIVE- A	4	0	0	4	50	100	150
		GRAND TOTAL	**18**	**0**	**6**	**21**	**275**	**525**	**800**

L = Lecture

T = Tutorial

P = Practical

C = Credit Point

ELECTIVES

MODULE CODE	GENERIC ELECTIVE
SAPA0320	SAP (ABAP)$^{\Psi}$
SAPM0321	SAP (MM)$^{\Psi}$
SAPS0322	SAP (SD)$^{\Psi}$
SAPH0323	SAP (HCM)$^{\Psi}$
SAPS0324	SAP (FI)$^{\Psi}$
CCNA0325	CCNA$^{\Psi}$
MATH0303	NUMERICAL METHODS

$^{\Psi}$Additional fee, if any, shall be borne by the student.

SEMESTER - II

MODULE CODE	CATEGORY	MODULE	L	T	P	C	INTERNAL MARKS	EXTERNAL MARKS	TOTAL
ECEN5108	PC	NEURAL NETWORK AND FUZZY LOGIC	4	0	0	4	50	100	150
ECEN5109	PC	ADVANCED OPTICAL COMMUNICATION	3	0	0	3	25	75	100
ECEN5110	PC	ADVANCED OPTICAL COMMUNICATION LAB	0	0	2	1	25	25	50
ECEN5111	PC	ADVANCED VLSI DESIGN	3	0	0	3	25	75	100
ECEN5112	PC	ADVANCED VLSI DESIGN LAB	0	0	2	1	25	25	50
ECEN5113	SP	SEMINAR	0	0	2	1	25	25	50
RESM0101	PC	RESEARCH METHODOLOGY	4	0	0	4	50	100	150
	PE	ELECTIVE-I	4	0	0	4	50	100	150
		GRAND TOTAL	**10**	**0**	**6**	**21**	**275**	**525**	**800**

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ELECTIVES

MODULE CODE	PROGRAM ELECTIVE I
ECEN5214	OPTIMIZATION TECHNIQUES
ECEN5215	RELIABILITY ENGINEERING

SEMESTER - III

MODULE CODE	CATEGORY	MODULE	L	T	P	C	INTERNAL MARKS	EXTERNAL MARKS	TOTAL
ECEN6101	PC	IMAGE PROCESSING	4	0	0	4	50	100	150
ECEN6102	PC	WIRELESS AND MOBILE COMMUNICATION	4	0	0	4	50	100	150
ECEN6103	PC	ADVANCED DATA COMMUNICATION	3	1	0	3.5	50	100	150
ECEN6104	PC	ADVANCED DATA COMMUNICATION LAB	0	0	2	1	25	25	50
ECEN6105	DI	LITERATURE SURVEY (DISSERTATION STAGE 1)*	0	0	0	2	50	50	100
	PE	ELECTIVE-II	4	0	0	4	50	100	150
	GE	ELECTIVE- B	4	0	0	4	50	100	150
TOTAL CREDITS			**15**	**1**	**2**	**22.5**	**325**	**575**	**900**

L = Lecture
T = Tutorial
P = Practical
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ELECTIVES

MODULE CODE	PROGRAM ELECTIVE II
ECEN6106	ADHOC SENSOR NETWORKS
ECEN6107	ELECTRONIC SYSTEM DESIGN

MODULE CODE	GENERIC ELECTIVE B
SAPA0320	SAP (ABAP)#
SAPM0321	SAP (MM)#
SAPS0322	SAP (SD)#
SAPH0323	SAP (HCM)#
SAPF0324	SAP (FI)#
CCNA0325	CCNA#
CSEN6301	ADVANCED COMPUTER NETWORK

#Additional fee, if any, shall be borne by the student.

*** Students are to earn 2 credits on review of litrature in 3rd semester out of 12 credits in total assigned to dissertation to be completed in 4th semester.**

SEMESTER - IV

MODULE CODE	CATEGORY	MODULE	L	T	P	C	INTERNAL MARKS	EXTERNAL MARKS	TOTAL
ECEN6108	DI	DISSERTATION and VIVA (DISSERTATION STAGE 2)	-	-	-	10	250	250	500
		GRAND TOTAL	**0**	**0**	**0**	**10**	**250**	**250**	**500**

L = Lecture

T = Tutorial

P = Practical

C = Credit Point