



Course Name: Bachelor of Technology (B. Tech.) in Electronics and Communication Engineering (ECE) with Specialization (Hons.) in Robotics

Course Structure

FIRST YEAR

SEMESTER I								
S. No	Type	Course Code	Course Title	L	T	P	Contact Hrs/wk	Credits
1	Theory	SMA41101	Engineering Mathematics-I	3	1	0	4	4.0
2	Theory		Applied Science (Physics+Chemistry)	3	0	0	3	3.0
3	Theory	ECS41101 / EEE41102	Introduction to Programming / Electrical and Electronics Technology	3	0	0	3	3.0
4	Theory	HEN41117	HSSM –I (English Communication- I)	3	0	0	3	3.0
5	Theory	HEN41119 / SBT41108	HSSM –II (Human Values & Ethics and Psychology) / Life Sciences	3	0	0	3	3.0
6	Practical		Applied Science Lab	0	0	3	3	2.0
7	Practical	ECS41201 / EEE41202	Programming Lab / Electrical and Electronics Technology Lab	0	0	3	3	2.0
8	Practical	ECE41201/ EME41204	Engineering Drawing and CAD/Engineering Workshop	0	0	3	3	2.0
9	Practical	EMC41201	Communication and Collaboration Skill -I	0	0	2	2	1
10	Practical		Avant Grade Project-I	0	0	2	2	1
Total				15	1	13	29	24

SEMESTER II

S. No	Type	Course Code	Course Title	L	T	P	Contact Hrs/wk	Credits
1.	Theory	SMA41102	Engineering Mathematics– II	3	1	0	4	4.0
2.	Theory	EEE41102 / ECS41101	Electrical and Electronics Technology/ Introduction to Programming	3	0	0	3	3.0
3.	Theory	SBT41108 / HEN41119	Life Sciences/HSSM –II (Human Values & Ethics and Psychology)	3	0	0	3	3.0
4.	Theory	EME41102	Engineering Mechanics	3	1	0	4	4.0
5.	Theory	SGY42113	Environmental Science	3	0	0	3	3

6.	Practical	EEE41202 / ECS41201	Electrical and Electronics Technology Lab/ Programming Lab	0	0	3	3	2.0
7.	Practical	EME41204/ ECE41201	Engineering Workshop/Engineering Drawing and CAD	0	0	3	3	2.0
8.	Practical	EMC41202	Communication and Collaboration Skill - II	0	0	2	2	1
9.	Practical		Avant Grade Project-II	0	0	2	2	1
Total				15	2	10	27	23

Total Credits (First Year): 47

SECOND YEAR

Semester-III								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	SMA42109	Engineering Mathematics– III (Transform Calculus & Special functions)	3	0	0	3	3
2.	Theory	HEC42180	HSSM –IV (Economics for Engineers)	3	0	0	3	3
3.	Theory	EEC42101	Prof. Core- I (Electronic Devices)	3	0	0	3	3
4.	Theory	EEC42103	Prof. Core- II (Analog Electronic Circuits)	3	0	0	3	3
5.	Theory	EEC42105	Prof. Core- III (Signals and Networks)	3	0	0	3	3
6.	Theory	EEC41102	Choice of Dept. (Electromagnetic Fields)	3	0	0	3	3
7.	Practical	EEC42203	Prof. Core-II Lab (Analog Electronic Circuits Lab)	0	0	3	3	2
8.	Practical	EEC42205	Prof. Core-III Lab (Signals and Networks Lab)	0	0	3	3	2
9.	Practical	EEC42401	Interdisciplinary Project AU	1	0	2	3	3
10.	Practical		Design Thinking-I	0	0	3	3	2
11.	Practical		Avant Grade Project-III	0	0	2	2	1
12.	Practical		#Adamas Foundation (CSR Activity)	--	--	-	--	1
Total				19	0	16	33	29

Corporate Social Responsibility (CSR) Activity will be taken up during the summer break after 2th semester, and will be evaluated in the 3rd semester.

Semester-IV

S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	SMA2111	Engineering Mathematics– IV (Probability, Statistics and Numerical Methods)	3	0	0	3	3
2.	Theory	EEC42102	Prof. Core- IV (Digital Electronics)	3	0	0	3	3
3.	Theory	EEC42104	Prof. Core- V (Communication Systems-I)	3	0	0	3	3
4.	Theory	EEC42106	Prof. Core- VI (Digital Signal Processing)	3	0	0	3	3
5.	Theory	EEC42108	Prof. Core- VII (Microprocessors and Microcontrollers)	3	0	0	3	3
6.	Practical 1	EEC42204	Prof. Core- V Lab (Communication Systems -I Lab)	0	0	3	3	2
7.	Practical 1	EEC42206	Prof. Core- VI Lab (Digital Signal Processing Lab)	0	0	3	3	2
8.	Practical 1	EEC42208	Prof. Core- VII Lab (Microprocessors and microcontrollers Lab)	0	0	3	3	2
9.	Practical 1	EEC42202	Prof. Core- IV Lab (Digital Electronics Lab)	0	0	3	3	2
10.	Practical 1		Design Thinking-II	0	0	3	3	2
11.	Practical 1		Avant Grade Project-IV	0	0	2	2	1
Total				15	0	17	32	26

Total Credits (Second Year): 55

THIRD YEAR

Semester-V								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	EEC43103	Prof. Core- VIII (Communication Systems-II)	3	0	0	3	3
2.	Theory	EEC43105	Prof. Core- IX (VLSI Systems Design)	3	0	0	3	3
3.	Theory	EEC43107	Prof. Core- X	3	0	0	3	3

			(Embedded Systems Design)					
4.	Theory	EEC43141	Specialization Course-I (Rapid Prototyping)	3	1	0	4	4
5.	Theory	EEC43111/ EEC43113/ EEC43115	Prof. Elective- I (Data Communication and Computer Networks / Optical Fiber Communication/ Biomedical Electronics)	3	0	0	3	3
6.	Practical	EEC43203	Prof. Core- VIII Lab (Communication Systems-II Lab)	0	0	3	3	2
7.	Practical	EEC43205	Prof. Core- IX Lab (VLSI Systems Design Lab)	0	0	3	3	2
8.	Practical	EEC43207	Prof. Core- X Lab (Embedded System Design Lab)	0	0	3	3	2
9.	Practical	EEC43241	Specialization Course-I Lab (Rapid Prototyping Lab)	0	0	3	3	2
10.	Practical		Venture Ideation	0	0	2	2	1
11.	Practical		Avant Grade Project-V	0	0	2	2	1
Total				15	1	16	32	26
Semester-VI								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	EEC43102	Prof. Core- XI (Control Systems)	3	0	0	3	3
2.	Theory	EEC43104	Prof. Core- XII (Microwave Engineering)	3	0	0	3	3
3.	Theory	EEC43122/ EEC43124/ EEC43126	Prof. Elective- II (Antenna & Wave Propagation / Power Electronics / Adaptive Signal Processing)	3	0	0	3	3
4.	Theory		Open Elective- I	2	0	0	2	2
5.	Theory	EEC43142	Specialization Course-II (Mechatronics Systems and Applications)	3	1	0	4	4
6.	Theory	EEC43144	Specialization Course-III (Mobile Robots)	3	0	0	3	3
7.	Practical	EEC43202	Prof. Core- XI Lab (Control Systems Lab)	0	0	3	3	2
8.	Practical	EEC43204	Prof. Core- XII Lab	0	0	3	3	2

			(Microwave Engineering Lab)					
9.	Practical	EEC43222/ EEC43224/ EEC43226	Prof. Elective- II Lab (Antenna & Wave Propagation Lab/ Power Electronics Lab/ Adaptive Signal Processing Lab)	0	0	3	3	2
10.	Practical	EEC43242	Specialization Course-II Lab (Mechatronics Systems and Applications Lab)	0	0	3	3	2
11.	Seminar	EEC43302	Technical Seminar	0	0	2	2	1
Total				17	1	14	32	27

Total Credits (Third Year): 53

FOURTH YEAR

Semester-VII								
Sl. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	MBA43144	HSSM –V (Industrial Management)	3	0	0	3	3
2.	Theory	EEC44111/ EEC44113/ EEC44115	Prof. Elective- III (Wireless Communication/ Image & Video Processing / Low Power VLSI Design)	3	0	0	3	3
3.	Theory		Open Elective- II	3	0	0	3	3
4.	Theory		Open Elective- III	3	0	0	3	3
5.	Practical	EEC44211/ EEC44213/ EEC44215	Prof. Elective- IV Lab (Wireless Communication Lab/ Image & Video Processing Lab/ Low Power VLSI Design Lab)	0	0	3	3	2
6.	Theory	EEC44141	Specialization Course-IV (Machine Learning)	3	0	0	3	3
7.	Practical	EEC44241	Specialization Course-IV Lab (Machine Learning Lab)	0	0	3	3	2
8.	Internship/ Training	EEC44601	#Summer Internship	--	--	--	--	2

9.	Project	EEC44401	Minor Project	0	0	6	6	3
Total				18	0	12	30	24

Summer Internship for 30 days will be taken at the end of 6th semester, and will be evaluated in the 7th semester.

Semester-VIII								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	EEC44141	Specialization Course V [Aerial Robotics] (Online/Offline mode)	3	0	0	3	3
2.	Project	EEC44402	Industry Work Experience / SIRE* / Major Project	0	0	12	12	4
3.	Viva	EEC44502	Comprehensive Viva Voce	-----			-----	2
4.	Viva	EEC44504	Specialization Viva Voce	-----			-----	2
Total				3	0	12	15	11

*SIRE: Scientific Investigation & Research Experience

Total Credits (Fourth Year): 35

Total Credits (Over four years): 47+55+53+36 = 190 = 165 (Regular) + 25 (Specialization / Hons.)