

Curriculum for B.Sc. Engineering Honours Degree Programme

Electronic and Telecommunication Engineering Specialization

Department of Electronic and Telecommunication Engineering

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
<i>Semester 1</i>										
MA1013	Mathematics	C	3	1/1	3.0		15.0		20	80
CS1032	Programming Fundamentals	C	2	3/1	3.0				20	80
ME1032	Mechanics	C	2	3/4	2.0				20	80
MT1022	Properties of Materials	C	2	3/4	2.0				20	80
CE1022	Fluid Mechanics	C	2	3/4	2.0				20	80
EE1013	Electrical Engineering	C	2	3/4	2.0				20	80
EL1012	Language Skill Enhancement I	C	-	3/1	1.0				20	80
MN1012	Engineering in Context	C	1	-		1.0		1.0	30	70
<i>Total for Semester 1</i>							15.0	1.0		
<i>Semester 2</i>										
MA1023	Methods of Mathematics	C	3	1/1	3.0		17.0		30	70
EN1013	Electronics – I	C	3	-	3.0				30	70
EN1053	Introduction to Telecommunications	C	3	-	3.0				30	70
EN1060	Signals and Systems	C	3	-	3.0				30	70
EN1093	Laboratory Practice – I	C	-	9/1	3.0				100	-
EN1970	Communication Skills	C	1	3/1	2.0				100	-
EN1070	Electronics Product Design and Manufacture	C	2	3/1		3.0		3.0	50	50
MN1030	Entrepreneurship Skill Development (continued in S3)	O	0.5	3/1		1.0			70	30
<i>Total for Semester 2</i>							17.0	3.0		

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					GPA	NGPA	GPA	NGPA	CA	WE
<i>Semester 3</i>										
MA2013	Differential Equations	C	2	-	2.0		20.0		30	70
MA2023	Calculus	C	2	-	2.0				30	70
EN2013	Electronics – II	C	3	-	3.0				40	60
EN2040	Random Signals and Processes	C	2	-	2.0				30	70
EN2053	Communication Systems and Networks	C	3	-	3.0				40	60
EN2030	Fundamentals of Computer Organization and Design	C	3	-	3.0				50	50
EN2090	Laboratory Practice – II	C	-	9/1	3.0				100	-
EE2093	Theory of Electricity	C	2	-	2.0				30	70
EN2532	Robot Design and Competition	E	1.5	3/1	2.5		2.0		60	40
ME1822	Basic Engineering Thermodynamics	E	1.5	3/2	2.0				30	70
ME1090	Engineering Drawing and Computer Aided Modelling	E	2.0	3/1	3.0				100	-
MN1030	Entrepreneurship Skill Development (continued from S2)	O	0.5	3/1		1.0			70	30
<i>Total for Semester 3</i>							22.0			

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					GPA	NGPA	GPA	NGPA	CA	WE
<i>Semester 4</i>										
MA2033	Linear Algebra	C	2	-	2.0		17.0		30	70
EN2110	Electronics – III	C	3	3/1	4.0				40	60
EN2073	Analog and Digital Communications	C	3	3/1	4.0				40	60
EN2083	Electromagnetics	C	3	3/1	4.0				40	60
EN2570	Digital Signal Processing	C	2	3/1	3.0				40	60
EN2550	Fundamentals of Image Processing and Machine Vision	E	2	3/1	3.0		4.0		40	60
EN2560	Internet of Things Design and Competition	E	1	3/1	2.0				70	30
BM2800	Introduction to Biomedical Engineering	E	2	-	2.0				40	60
CS2022	Data Structures and Algorithms	E	2.0	3/2	2.5				40	60
CS2832	Modular Software Development	E	2.0	3/2	2.5				50	50
EE2023	Electrical Machines and Drives I	E	2.0	-	2.0		4.0		30	70
MA2053	Graph Theory	E	2.0	-	2.0				30	70
MN2010	Entrepreneurial Leadership	O	1.5	3/2	2.0				50	50
<i>Total for Semester 4</i>							21.0			

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					GPA	NGPA	GPA	NGPA	CA	WE	
<i>Semester 5</i>											
EN3023	Electronic Design Realization	C	2	3/1	3.0		17.0		40	60	
EN3030	Circuits and Systems Design	C	3	3/1	4.0				50	50	
EN3053	Digital Communications – I	C	3	3/1	4.0				40	60	
EN3143	Electronic Control Systems	C	2	3/1	3.0				40	60	
CS3032	Computer Networks	C	2	3/1	3.0				40	60	
MA3013	Applied Statistics	E	2	-	2.0		2.0		30	70	
MA3023	Numerical Methods	E	2	-	2.0				30	70	
MN3042	Business Economics & Financial Accounting	E	3	-	3.0		3.0		30	70	
MN3052	Industrial Management & Marketing	E	2.5	3/2	3.0				30	70	
MN3010	Multidisciplinary Design, Innovation and Venture Creation	O	1.5	3/2	2.0				50	50	
<i>Total for Semester 5</i>									22.0		
<i>Industrial Training</i>											
EN3992	Industrial Training	C	-	-		6.0		6.0	100	-	
<i>Total for Industrial Training</i>									6.0		
<i>Semester 6</i>											
EN3900	Seminar	C	2	-		2.0		2.0	100	-	
DE1XXX	Humanities Electives I	E	2	-	2.0		4.0				
DE2XXX	Humanities Elective II	E	2	-	2.0						
EN3110	Electronic Devices	E	2	3/1	3.0		3.0		40	60	
EN3223	Electronic Manufacturing Systems	E	2	3/1	3.0				50	50	
EN3240	Embedded Systems Engineering	E	2	3/1	3.0				100	-	
EN3250	Internet of Things	E	2	3/1	3.0				50	50	
EN3370	Traffic Engineering	E	2	3/1	3.0				50	50	
EN3532	Electronic Instrumentation	E	2	3/1	3.0				50	50	
EN3210	Self Initiated Innovation	E	-	-	3.0				100	-	
<i>Total for Semester 6</i>									7.0	2.0	

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)			
					GPA	NGPA	GPA	NGPA	CA	WE		
<i>Semester 7</i>												
EN4202	Project*	C	-	-	4.0		4.0		100	-		
EN4820	Ethics and Legal Fundamentals	C	1	-	1.0		1.0		40	60		
EN4932	Technical & Scientific Writing	C	1/2	3/2	-	1.0		1.0	100	-		
EN4603	Digital IC Design	E	2	3/1	3.0		A [†]		50	50		
EN4213	Power Electronics	E	2	3/1	3.0				50	50		
EN4053	Digital Communications II	E	2	3/1	3.0				50	50		
EN4313	Telecommunication Core Networks	E	2	3/1	3.0				50	50		
EN4363	Microwave Communication	E	2	3/1	3.0				50	50		
EN4553	Machine Vision	E	2	3/1	3.0				50	50		
EN4563	Robotics	E	2	3/1	3.0				50	50		
EN4922	Research Project**	E	-	-	2.5				100	-		
BM4111	Medical Electronics and Instrumentation	E	2	3/1	3.0				50	50		
BM4301	Medical Image Processing	E	2	3/1	3.0				50	50		
BM4321	Genomic Signal Processing	E	2	3/1	3.0				50	50		
MA4013	Linear Models and Multivariate Statistics	E	3	-	3.0				3.0		30	70
MA4033	Time Series and Stochastic Processes	E	3	-	3.0						30	70
MA4023	Operational Research	E	3	-	3.0		30	70				
MA4053	Neural Network and Fuzzy Logic	E	3	-	3.0		30	70				
MN4150	Project Management	E	2	-	2.0		2.0		50	50		
MN4062	Organizational Behaviour and Management	E	2	-	2.0				30	70		
MN4132	Consumer and Industrial Marketing	E	2	-	2.0				30	70		
MN4122	Human Resource Management and Industrial Relations	E	2	-	2.0				30	70		
MN4042	Technology Management	E	2	-	2.0				30	70		
MN4022	Engineering Economics	E	2	-	2.0				30	70		
MN4030	Strategic Enterprise Management	E	1.5	3/2	2.0				40	60		
MN3020	Entrepreneurship Business Basics	E	2	3/1	3.0				50	50		

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					GPA	NGPA	GPA	NGPA	CA	WE
Semester 8										
EN4202	Project*	C	-	-	6.0		6.0		100	-
EN4020	Advanced Digital Systems	E	2	3/1	3.0		B ⁺		100	-
EN4233	Industrial Electronics and Automation	E	2	3/1	3.0			50	50	
EN4283	Electronics Application in Renewable Energy	E	2	3/1	3.0			50	50	
EN4430	Analog IC Design	E	2	3/1	3.0			50	50	
EN4323	Optical Fibre Communications	E	2	3/1	3.0			50	50	
EN4333	Microwave Engineering	E	2	3/1	3.0			50	50	
EN4353	Radar and Navigation	E	2	3/1	3.0			50	50	
EN4383	Wireless and Mobile Communications	E	2	3/1	3.0			50	50	
EN4393	Information Theory	E	2	3/1	3.0			40	60	
EN4403	Mobile Computing	E	2	3/1	3.0			70	30	
EN4420	Advanced Signal Processing	E	2	3/1	3.0			50	50	
EN4573	Pattern Recognition and Machine Intelligence	E	2	3/1	3.0			50	50	
EN4583	Advances in Machine Vision	E	2	3/1	3.0			50	50	
EN4593	Autonomous Systems	E	2	3/1	3.0			40	60	
EN4922	Research Project**	E	-	-	2.5			100	-	

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
<i>Semester 8 (Cont..)</i>										
MA4013	Linear Models and Multivariate Statistics	E	3.0	-	3.0		3.0		30	70
MA4033	Time Series and Stochastic Processes	E	3.0	-	3.0				30	70
MA4023	Operational Research	E	3.0	-	3.0				30	70
MA4053	Neural Network and Fuzzy Logic	E	3.0	-	3.0				30	70
MN4122	Human Resource Management and Industrial Relations	E	2.0	-	2.0		2.0		30	70
MN4042	Technology Management	E	2.0	-	2.0				30	70
MN4072	Small Business Management and Entrepreneurship	E	2.0	-	2.0				30	70
MN4022	Engineering Economics	E	2.0	-	2.0				30	70
MN4150	Project Management	E	2.0	-	2.0				50	50
MN4092	Management Skills Development	E	2.0	-	2.0				30	70
MN4112	Production and Operations Management	E	2.0	-	2.0				30	70
MN4010	Business Plan Development	E	1.5	3/2	2.0				70	30
MN4170	Global Entrepreneurship	E	1.5	3/2	2.0		40	60		
Total for Semester 7 and Semester 8							33.0	1.0		
Total for the Programme							137	13		

* - A total of 10 credits for Project over Semester 7 and Semester 8.

** - A total of 5 credits for Research Project over Semester 7 and Semester 8.

† - A total of 12.0 credit over Semester 7 and Semester 8 from technical electives ($A+B = 12.0$)

Module Lineup for Entrepreneurship Minor

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					GPA	NGPA	GPA	NGPA	CA	WE
MN1030	Entrepreneurship Skill Development	C	1.0	3/1		2.0		2.0	70	30
MN2010	Entrepreneurial Leadership	C	1.5	3/2	2.0		2.0		50	50
MN3010	Multidisciplinary Design, Innovation and Venture Creation	C	1.5	3/2	2.0		2.0		50	50
MN3020	Entrepreneurship Business Basics	C	2.0	3/1	3.0		3.0		50	50
MN4010	Business Plan Development	C	1.5	3/2	2.0		2.0		70	30
MN4022	Engineering Economics	E	2.0	-	2.0				30	70
MN4042	Technology Management	E	2.0	-	2.0				30	70
MN4112	Production and Operations Management	E	2.0	-	2.0				30	70
MN4030	Strategic Enterprise Management	E	1.5	3/2	2.0				40	60
MN4170	Global Entrepreneurship	E	1.5	3/2	2.0		2.0		40	60
Total for all Semesters							11.0		2.0	

Modules Offered to Other Fields of Specialization

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Evaluation (%)		
					GPA	NGPA	CA	WE	
<i>Semester 2</i>									
EN1012	Electronic Devices and Circuits	-	2.0	-	2.0		40	60	
EN1052	Introduction to Telecommunications	-	2.0	-	2.0		40	60	
EN1802	Basic Electronics	-	2.0	3/4	2.0		40	60	
<i>Semester 3</i>									
EN2012	Analog Electronics	-	2.0	3/2	2.5		30	70	
EN2022	Digital Electronics	-	2.0	3/2	2.5		30	70	
EN2852	Applied Electronics	-	1.5	3/2	2.0		40	60	
<i>Semester 4</i>									
EN2062	Signals and Systems	-	2.0	3/2	2.5		30	70	