

B.Sc. Electrical Engineering: Session 2015 & Onwards

Year 1

Semester 1					Semester 2				
Course No	Title	Hrs		Cat	Course No	Title	Hrs		Cat
		Th	Lb				Th	Lb	
EE 100	Electric Circuits	3	1	F,E	EE 101	Electrical and Electronics Workshop	0	1	F,E
CH 100	Applied Chemistry	2	1	D,S	EE 110	Circuit Analysis & Design	3	1	F,E
ME 100L	Workshop Practice	0	1	UC,E	ME 122L	Engineering Drawing	0	1	F,E
PHY111	Applied Physics	2	1	UC,S	CS 141	Introduction to Computing	3	1	UC,C
HU 151	Arabic Language	No Cr		D,SS	ME 110	Applied Thermodynamics	3	0	ID,E
MA 123	Calculus	3	0	UC,M	HU 111	Communication Skills	0	1	UC,H
					MA 228	Differential Equations	3	0	D,M
Subtotal		14			Subtotal		17		

Year 2

Semester 3					Semester 4				
Course No	Title	Hrs		Cat	Course No	Title	Hrs		Cat
		Th	Lb				Th	Lb	
EE 212	Semiconductor Devices	3	1	F,E	EE 213	Analog and Digital Electronic Circuits	3	1	CB,E
EE 230	Programming Fundamentals	3	1	D,C	EE 220	Signals and Systems	3	0	F,E
EE 272	Digital Systems	3	1	F,E	EE 232	Data Structures and Algorithms	3	1	D,C
HU 221	Technical Writing & Presentation Skills	3	0	UC,H	EE 273	Microprocessor Systems	3	1	F,E
MA 234	Linear Algebra	3	0	D,M	MA 346	Numerical Methods	3	0	D,M
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Subtotal		18			Subtotal		18		

Year 3

Semester 5					Semester 6				
Course No	Title	Hrs		Cat	Course No	Title	Hrs		Cat
		Th	Lb				Th	Lb	
EE 320	Applied Probability and Statistics	3	0	F,E	EE 322	Analog and Digital Communications	3	1	CB,E
EE 340	Control Systems	3	1	CB,E	EE 384	Digital Signal Processing	3	1	CD,E
EE 350	Electric Machinery Fundamentals	3	1	CB,E	EE	Restricted Elective	3	1	CD,E
EE 356	Power Transmission,	3	1	CB,E	MCT 351	Introduction to Robotics	3	1	ID,E

	Distribution and Utilization			
EE 380	Electromagnetic Theory	3	0	CB,E
Subtotal		18		

IS 101	Islamic and Pakistan Studies-I/Ethics	3	0	UC,H
Subtotal		19		

Year 4					
Semester 7				Semester 8	
Course No	Title	Hrs		Cat	
		Th	Lb		
EE	Elective	3	1	CD,E	
EE	Elective	3	1	CD,E	
MGT 460	Engineering Economics	3	0	D,Mg	
IS 201	Islamic and Pakistan Studies-II/Ethics	3	0	UC,H	
EE 499a	Project (Phase-I)	0	3	CD,E	
Subtotal		17			

Course No	Title	Hrs		Cat	
		Th	Lb		
EE	Elective	3	1	CD,E	
EE	Elective	3	1	CD,E	
MGT 414	Entrepreneurship and Business Management	3	0	UC,Mg	
EE 499b	Project (Phase-II)	0	3	CD,E	
Subtotal		14			

Total Hours	Hr		%
	135		
Engineering (Fundamental, Breadth, Depth & ID)	101		74.80
Mathematics (Core and Department)	12		8.90
Sciences (Core and Department)	6		4.40
Humanities/Management/Social Science (Core)	16		11.90
Checksum			100

Numbering Scheme	
First number	Level
Second number	Area
Third number	Place within Area
Areas	
General	0
Electr	1,9
Comm	2,8
Comp	3,7
Control	4
Power	5,6

Electives

Restricted Electives

EE 431: Operating Systems (L)	C-Core
EE 451: Power System Analysis and Design (L)	P-Core
EE 483: Antenna Systems (L)	E-Core

Electives

EE 410: Power Electronics (L)	E,P-Core
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EE 412: Integrated Electronic Circuits (L)	E-Core
EE 413: Industrial Electronics (L)	E,P-Opt
EE 424: Satellite Engineering	E-Core
EE 425: Wireless Communications (L) - Pre-Requirement: DSP	E-Core C-Opt
EE 426: Digital Image Processing (L)	E-Opt
EE 432: Computer Networks (L)	C-Core E-Opt
EE 436: Database Engineering (L)	C-Core
EE 439: Introduction to Machine Learning	C-Core
EE 450: High Voltage Engineering (L)	P-Core
EE 452: (Renewable) Electrical Energy Systems	P-Core
EE 461: Design of Electrical Machines	P-Core
EE 453: Power System Operation and Control (L) - Pre-Requirement: PSAnD	P-Core
EE 454: Power System Protection (L) - Pre-Requirement: PSAnD	P-Core
EE 456: Introduction to Smart Grids	P-Opt
EE 475: Computer Architecture (L)	C-Core E-Opt
EE 476: Introduction to VLSI Systems (L)	E,C-Opt
EE 477: Software Construction	C-Opt
EE 481: Optical Circuits and Systems	C-Opt
EE 482: Microwave Engineering - Passive Devices (L)	E-Core
EE 484: Microwave Engineering - Active Devices (L) - Pre-Req: Passive Devices	E-Core
EE 485: Electromagnetic Compatibility	E-Opt
EE 491: Electrical Instruments and Measurements	E-Opt