

## Undergraduate Curriculum for Sessions 2015 & 2016

### 1<sup>st</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE100	Electric Circuits	(3-1-4)	E	
2	CH100	Applied Chemistry	(2-1-3)	S	
3	IS199	Arabic Language	(0-0-0)	S	
4	MA123	Calculus	(3-0-3)	M	
5	ME100L	Workshop Practice	(0-1-1)	E	
6	PHY111	Applied Physics	(3-1-4)	S	
<b>Total Cr. Hrs.</b>			<b>(11-4-15)</b>		

### 2<sup>nd</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	CS141	Introduction to Computing	(3-1-4)	C	
2	EE110	Circuit Analysis and Design	(3-1-4)	E	
3	ME122L	Engineering Drawing	(0-1-1)	E	
4	EE101	Electrical & Electronics Workshop	(0-1-1)	E	
5	MA228	Differential equations	(3-0-3)	M	
6	HU111	Communication Skills	(0-1-1)	H	
7	ME110	Applied Thermodynamics	(3-0-3)	E	
<b>Total Cr. Hrs.</b>			<b>(12-5-17)</b>		

### 3<sup>rd</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE212	Semiconductor Devices	(3-1-4)	E	
2	EE230	Programming Fundamentals	(3-1-4)	C	
3	EE272	Digital Systems	(3-1-4)	E	
4	HU221	Technical Writing & Presentation Skills	(3-0-3)	H	
5	MA234	Linear Algebra	(3-0-3)	M	
<b>Total Cr. Hrs.</b>			<b>(15-3-18)</b>		

### 4<sup>th</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE213	Analog & Digital Electronics	(3-1-4)	E	
2	EE220	Signals & Systems	(3-0-3)	E	
3	MA346	Numerical Methods	(3-0-3)	M	
4	EE231	Data Structures and Algorithms	(3-1-4)	C	
5	EE273	Microprocessor Systems	(3-1-4)	E	
<b>Total Cr. Hrs.</b>			<b>(15-3-18)</b>		

### 5<sup>th</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE356	Power Transmission, Distribution & Utilization	(3-1-4)	E	
2	EE340	Control Systems	(3-1-4)	E	
3	EE320	Applied probability & Statistics	(3-0-3)	E	
4	EE380	Electromagnetic Theory	(3-0-3)	E	
5	EE350	Electric Machinery Fundamentals	(3-1-4)	E	
<b>Total Cr. Hrs.</b>			<b>(15-3-18)</b>		

#### 6<sup>th</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE322	Analog & Digital Communications	(3-1-4)	E	
2	EE384	Digital Signal Processing	(3-1-4)	E	
3	IS101	Islamic and Pak Studies-I/Ethics	(3-0-3)	H	
4	MCT351	Introduction to Robotics	(3-1-4)	E	
5	EE	Restricted Elective	(3-1-4)	E	
<b>Total Cr. Hrs.</b>			<b>(15-4-19)</b>		

#### 7<sup>th</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE	Elective	(3-1-4)	E	
2	EE	Elective	(3-1-4)	E	
3	MGT460	Engineering Economics	(3-0-3)	Mg	
4	IS201	Islamic and Pak Studies-II/Ethics	(3-0-3)	H	
5	EE499a	Project (Phase-I)	(0-3-3)	E	
<b>Total Cr. Hrs.</b>			<b>(12-5-17)</b>		

#### 8<sup>th</sup> Semester

Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE	Elective	(3-1-4)	E	
2	EE	Elective	(3-1-4)	E	
3	MGT414	Entrepreneurship & Business Management	(3-0-3)	E	
4	EE499b	Project (Phase-II)	(0-3-3)	E	
<b>Total Cr. Hrs.</b>			<b>(9-5-14)</b>		

#### Resticted Electives for 6th Semester

Sr. No.	Course Code	Course Title	Knowledge Area/Category
1	EE483	Antenna Systems	E
2	EE431	Operating Systems	E
2	EE451	Power System Analysis & Design	E

### List of Electives

C-core = Computer core, C-opt = Computer Optional  
 E-core = Electronics core , E-opt = Electronics Optional  
 P-core = Power core, P-opt = Power Optional

Sr. No .	Course Code	Course Title	Area of Specialization/Co re	Knowledge Area/ Category	Pre-requisite Courses (if any)
1	EE410	Power Electronics	E-core,P-core	E	
2	EE450	High Voltage Engineering	P-core	E	
3	EE412	Integrated Electronic Circuits	E-core	E	
4	EE413	Industrial Electronics	E-core,P-opt	E	
5	EE453	Power System Operation & Control	P-core	E	EE451 Power System Analysis & Design
6	EE454	Power System Protection	P-core	E	EE451 Power System Analysis & Design
7	EE461	Design of Electrical Machines	P-core	E	
8	EE491	Electrical Instruments and Measurements	E-opt	E	
9	EE424	Satellite Engineering	E-core	E	
10	EE425	Wireless Communications	E-core	E	EE384 Digital Signal Processing
11	EE426	Digital Image Processing	E-opt	E	
12	EE432	Computer Networks	C-core, E-opt	E	
13	EE436	Database Engineering	C-core	E	
14	EE439	Introduction to Machine Learning	C-core	E	
15	EE452	(Renewable) Electrical Energy Systems	P-core	E	
16	EE456	Introduction to Smart Grids	P-opt	E	
17	EE475	Computer Architecture	C-core, E-opt	E	
18	EE476	Introduction to VLSI Systems	E-core,C-opt	E	
19	EE477	Software Construction	C-opt	E	
20	EE481	Optical Circuits & Systems	C-opt	E	
21	EE482	Microwave Engineering-Passive Devices	E-core	E	
22	EE484	Microwave Engineering-Active Devices	E-core	E	EE482 Microwave Engineering Passive Devices
23	EE485	Electromagnetic Compatibility	E-opt	E	