

Department of Electronics Engineering				
Curriculum for Session 2K25 onwards in accordance with PEC/HEC guidelines				
Semester-I				
Code	Course Title	Knowledge Area	CHs	Pre-Requisites
BH-111	Functional English	Humanities (English)	3	
BH-112	Calculus-I	Natural Sciences (Maths/ Eq Quantitative Reasoning-I)	3	
BH-113	Applied Physics	Natural Sciences (Physics)	3	
BH-113-L	Applied Physics Lab	Natural Sciences (Physics)	1	
CS-114	Applications of ICT	Computer Sciences	2	
CS-114-L	Applications of ICT Lab	Computer Sciences	1	
BH-115	Pakistan Studies	Humanities (Culture)	2	
EN-116-L	Workshop Practice Lab	Engineering Foundation	1	
BH-117	Understanding of Holy Quran-I	Humanities (Study of Religion)	1	
Th./Lab. Semester Total			14+03=17	
Semester-II				
BH-121	Social Sciences Elective	Humanities (Social Sciences)	2	
BH-122	Differential Equations	Natural Sciences (Math)	3	Calculus-I
BH-123	Calculus-II	Natural Sciences (Math)	3	Calculus-I
EN-124	Circuit Analysis-I	Engineering Foundation	3	
EN-124-L	Circuit Analysis-I Lab	Engineering Foundation	1	
EN-125	Solid-State Electronics	Engineering Foundation	3	
BH-126	Understanding of Holy Quran-II	Humanities (Study of Religion)	1	
EN-127	Occupational Health and Safety	Multidisciplinary Engineering Courses	1	
Th./Lab. Semester Total			16+1=17	
Total for First Year			34	
Semester-III				
BH-211	Linear Algebra	Natural Sciences (Math)	3	
BH-212	Expository Writing	Humanities (English)	3	
EN-213	Digital Logic Design	Engineering Foundation	3	
EN-213-L	Digital Logic Design Lab	Engineering Foundation	1	
EN-214	Circuit Analysis-II	Engineering Foundation	3	Circuit Analysis-I
EN-214-L	Circuit Analysis-II Lab	Engineering Foundation	1	
EN-215	Electronic Devices & Circuits	Engineering Foundation	3	Solid State Electronics
EN-215-L	Electronic Devices & Circuits Lab	Engineering Foundation	1	
Th./Lab. Semester Total			15+03=18	
Semester-IV				
BH-221	Complex Variables & Transforms	Natural Sciences (Math)	3	Differential Equations
EN-222	Probability & Random Variables	Engineering Foundation	3	
EN-223	Microprocessors & Micro controllers	Engineering Breadth	3	Digital Logic Design
EN-223-L	Microprocessors & Micro controllers Lab	Engineering Breadth	1	
EN-224	Electrical Machines	Engineering Breadth	3	Circuit Analysis-II
EN-224-L	Electrical Machines Lab	Engineering Breadth	1	
EN-225	Electronic Circuit Design	Engineering Breadth	3	Electronic Devices & Circuits
EN-225-L	Electronic Circuit Design Lab	Engineering Breadth	1	
Th./Lab. Semester Total			15+03=18	
Total for Second Year			36	
Semester-V				
EN-311	Embedded Systems	Engineering Depth	3	Microprocessors & Micro controllers
EN-311-L	Embedded Systems Lab	Engineering Depth	1	

EN-312	Integrated Electronics	Engineering Depth	3	Electronic Circuit Design
EN-312-L	Integrated Electronics Lab	Engineering Depth	1	
EN-313	Signals Processing	Engineering Breadth	3	Complex Variables and Transform
EN-313-L	Signals Processing Lab	Engineering Breadth	1	
EN-314	Electromagnetic Field Theory	Engineering Foundation	3	Calculus-II
EN-315	Instrumentation & Measurements	Engineering Breadth	3	
EN-315-L	Instrumentation & Measurements Lab	Engineering Breadth	1	
Th./Lab. Semester Total			15+04=19	
Semester-VI				
BH-321	Ideology & Constitution of Pakistan	Humanities (Culture)	2	
EN-322	Analog & Digital Communication	Multidisciplinary Engineering Courses	3	Signal Processing
EN-322-L	Analog & Digital Communication Lab	Multidisciplinary Engineering Courses	1	
EN-323	Control Systems	Engineering Breadth	3	Complex Variables & Transforms
EN-323-L	Control Systems Lab	Engineering Breadth	1	
EN-324	Power Electronics	Engineering Depth	3	Circuit Analysis-II
EN-324-L	Power Electronics Lab	Engineering Depth	1	
BH-325	Islamic Studies/Ethics	Humanities (Culture)	2	
BH-326	Civics and Community Engagement	Humanities (Social Sciences)	2	
Th./Lab. Semester Total			15+03=18	
Total for Third Year			37	
Semester-VII				
MS-411	Project Management	Management Sciences (Professional Practice)	2	
EN-412	VLSI Design	Engineering Depth	3	Integrated Electronics
EN-412-L	VLSI Design Lab	Engineering Depth	1	
EN-4XX	Elective-I	Engineering Depth	3	
EN-4XX-L	Elective-I Lab	Engineering Depth	1	
XX-4XX	Elective-II	Multidisciplinary Engineering Courses	2	See list of Multidisciplinary Elective Courses
XX-4XX-L	Elective-II Lab	Multidisciplinary Engineering Courses	0/1	
EN-499A-L	Electronics Engineering Project	Final Year Design Project (FYDP)	3	
Th./Lab. Semester Total			10+5/6=15/16	
Semester-VIII				
MS-421	Entrepreneurship	Management Sciences (Professional Practice)	2	
BH-422	Language-Elective	Humanities (Culture)	2	
EN-4XX	Elective-III	Engineering Depth	3	See list of Elective Courses
EN-4XX-L	Elective-III Lab	Engineering Depth	0/1	
EN-4XX	Elective-IV	Engineering Depth	3	See list of Elective Courses
EN-4XX-L	Elective-IV Lab	Engineering Depth	0/1	
EN-499B-L	Electronics Engineering Project	Final Year Design Project (FYDP)	3	
Th./Lab. Semester Total			10+3/5=13/15	
Total for Final Year			28/31	
Grand Total for Four Years			135/138	

List of Elective Courses

I. Engineering Elective Courses

Code	Course Title	Lec.	Lab.	Pre-Requisites
EN-413	FPGA-based System Design	3	1	Digital Logic Design
EN-414	Microelectronics Technology	3	0	
EN-415	Microprocessor-based System Design	3	1	Microprocessors & Microcontrollers
EN-416	Digital System Design	3	1	Integrated Electronics
EN-417	Opto-Electronic Devices	3	0	Applied Physics
EN-418	Analog & Mixed Signal Design	3	1	Integrated Electronics
EN-419	IC Testing and Verification	3	0	
EN-420	Computer Architecture	3	1	Microprocessors & Microcontrollers
EN-421	Industrial Electronics	3	1	Power Electronics
EN-422	Industrial Automation	3	1	Instrumentation & Measurements
EN-423	Digital Control Systems	3	1	Control Systems
EN-424	State-Space Control Design	3	1	Control Systems
EN-425	Microwave Engineering	3	0	Electromagnetic Field Theory
EN-426	RF Electronics	3	0	Electromagnetic Field Theory
EN-427	Laser and Fiber Optics	3	0	Applied Physics
EN-428	Advanced Signal Processing	3	1	Signal Processing
EN-429	Digital Image Processing	3	1	Signal Processing
EN-430	Wave Propagation and Antennas	3	1	Electromagnetic Field Theory
EN-431	Wireless Communications	3	0	Analog and Digital Communications
EN-432	Introduction to Nanotechnology	3	0	Solid-State Electronics
EN-433	Biomedical Instrumentation	3	1	Instrumentation & Measurements
EN-434	Introduction to Robotics	3	0	Linear Algebra
EN-435				

Note: All the above mentioned Elective courses are either 3+0 credit hours or 3+1 credit hours. The Elective courses (either 3+0 or 3+1) offered by the department in a semester can be changed depending on the availability of teachers and related Lab facility and will be notified before the start of the semester.

II. Multidisciplinary Engineering Elective Courses

CS-436	Computer Communication Networks	2	1	Analog and Digital Communications
CS-437	Telecommunication & Networks	2	0	Analog and Digital Communications
CS-438	Introduction to Neural Networks	2	0	
CS-439	Fuzzy Logic	2	0	
CS-440	Artificial Intelligence	2	1	Applications of ICT
CS-441	Machine Learning	2	1	Applications of ICT
CS-442	Operating Systems	2	1	Applications of ICT
BH-443	Numerical Methods	2	0	
BH-444	Statistical Methods	2	0	

Note: All the above mentioned Elective courses are either 2+0 credit hours or 2+1 credit hours. The Elective courses (either 2+0 or 2+1) offered by the department in a semester can be changed depending on the availability of teachers and related Lab facility and will be notified before the start of the semester.

III. Social Sciences Elective Courses

Professional and Social Ethics
 Sociology and Development
 Social Anthropology
 Understanding Psychology and Human Behavior
 Applied Psychology
 Organizational Behavior
 Introduction to Sociology
 Critical Thinking
 Introduction to Philosophy

IV. List of Language Elective Courses

National Languages
 International Languages