EEE Curriculum

Programme: BSc(Eng.) in Electrical and Electronic Engineering
Duration: 4 Years
Total Minimum Credit Requirement: 144

Programme Summery

SN	Course Category	Credit
1.	General Education Courses	37.5
1.1	Compulsory General Education Course – 31.5 Credits	
1.2	Elective General Course – 6 Credits	
2.	Core Courses	82.5
3.	Final Year Thesis/ Project/ Internship	6.0
4.	Program Elective Courses	18.0
4.1	Elective Group I- Major (Minimum 3 Theory Courses & corresponding Lab courses, if any)– Minimum- 9 Credits	
4.2	Elective Group II- Minor (Minimum 2 Theory Courses & corresponding Lab courses, if any)– Minimum- 6 Credits	
4.3	Elective Group III- Minor (Minimum 1 Theory Courses & corresponding Lab courses, if any)– Minimum- 3 Credits	
Total Minimum Credit Requirement		**144.0**

Courses Catalog

1. General Education Courses: (Minimum 37.5 Credit)

1.1: Compulsory General Education Course – 31.5 Credits

SN	Course Code	Course Name	Credit
1	ENG-111	Professional English	3.0
2	ENG-112	English Language Lab	1.5
3	GED-211	Professional Ethics and Civics	3.0
4	PHY-111	Physics	3.0
5	CHM-111	Chemistry	3.0
6	PHY-211	Material Properties	3.0
7	MAT-111	Differential and Integral Calculus	3.0
8	MAT-113	Matrices, Complex Variable& Fourier Analysis	3.0
9	MAT-115	Differential Equations, Vector and Laplace	3.0
10	MAT-211	Numerical Methods	3.0
11	STA-215	Basic Statistics & Probability	3.0

1-2: Elective General Education Course – (Minimum 6 Credits)

SN	Course Code	Course Name	Credit
1	GED-225	German Language	3.0
2	GED-229	French Language	3.0
3	GED-227	Japanese Language	3.0
4	GED-303	Entrepreneurship development	3.0
5	GED-201	Bangladesh Studies	3.0
6	GED-215	Industrial Management & Financial Accounting	3.0
7	GED-221	Business Communication	3.0
8	GED-129	Functional Bangla	3.0
9	GED-202	History of Emergence of Bangladesh	3.0
10	GED-223	Principles of Economics	3.0
11	GED-225	Public Administration	3.0
12	GED-311	Sustainable Environmental Science	3.0

2. EEE Core Courses-(Total 82.5 credits)

SN	Course Code	Course Name	Credit
1	EEE-111	Electrical Circuits I	3.0
2	EEE-112	Electrical Circuits I Lab	1.5
3	EEE-121	Electrical Circuits II	3.0
4	EEE-122	Electrical Circuits II Lab	1.5
5	EEE-123	Electronics I	3.0
6	EEE-124	Electronics I Lab	1.5
7	EEE-211	Digital Electronics	3.0
8	EEE-212	Digital Electronics Lab	1.5
9	EEE-213	Electronics II	3.0
10	EEE-214	Electronics II Lab	1.5
11	EEE-125	Engineering Electromagnetics	3.0
12	EEE-127	Continuous Signals and Linear Systems	3.0
13	EEE-321	Communication Engineering	3.0
14	EEE-322	Communication Engineering Lab	1.5
15	EEE-311	Digital Signal Processing	3.0
16	EEE-312	Digital Signal Processing Lab	1.5
17	EEE-323	Control System and Automation	3.0
18	EEE-324	Control System and Automation Lab	1.5
19	EEE-223	Electrical Design Lab	1.5
20	EEE-221	Electrical Machine I	3.0
21	EEE-222	Electrical Machine I Lab	1.5
22	EEE-313	Electrical Machine II	3.0
23	EEE-314	Electrical Machine II Lab	1.5
24	EEE-321	Power System I	3.0
25	EEE-322	Power System I Lab	1.5
26	EEE-223	Microprocessor & Embedded System	3.0
27	EEE-224	Microprocessor & Embedded System Lab	1.5
28	MEG-221	Mechanical Engineering Fundamentals	3.0
29	CSE-121	Computer Programming	3.0
30	CSE-122	Computer Programming Lab	1.5
31	CSE-211	Computer Networks	3.0
32	CSE-212	Computer Networks Lab	1.5
33	CSE-311	Data Structure and Algorithm	3.0
34	CSE-312	Data Structure and Algorithm Lab	1.5
35	CSE-321	Machine Learning	3.0
36	CSE-322	Machine Learning Lab	1.5

3. Final Year Thesis/Internship Course- (Total 6 credits)

SN	Course Code	Course Name	Credit
1	EEE 400	Industrial Training	2.0
2	EEE 401	Final Year Project / Thesis	2.0
3	EEE 403	Final Year Project / Thesis	2.0

4. Program Elective Group Courses- (Minimum 15 credits)

4.1: Elective Group I- Major (**Minimum 3 Theory** Courses & corresponding Lab courses, if any) – Minimum- 9 Credits

4.2: Elective Group II- Minor (**Minimum 2 Theory** Courses & corresponding Lab courses, if any) – Minimum- 6 Credits

4.3: Elective Group III- Minor (**Minimum1 Theory** Courses & corresponding Lab courses, if any) – Minimum- 3 Credits

Program Elective – Mechatronics and Robotics Group

SN	Course Code	Course Name	Credit
1	EEE-491	Electric Vehicle Engineering	3.0
2	EEE-493	Advanced Robotics	3.0
3	EEE-494	Advanced Robotics Lab	1.5
4	EEE-495	Introduction to Automobile Engineering	3.0
5	EEE-497	Mobile Robotics	3.0
6	EEE-498	Mobile Robotics lab	1.5
7	EEE-499	Sensor Technology	3.0

Program Elective - Electronics Group

SN	Course Code	Course Name	Credit
1	EEE-451	VLSI Design and Testing	3.0
2	EEE-452	VLSI Design and Testing Lab	1.5
3	EEE-453	Solid State Devices	3.0
4	EEE-455	Analog Integrated Circuits	3.0
5	EEE-456	Biomedical Instrumentation	3.0
6	EEE-457	Biomedical Instrumentation Lab	1.5
7	EEE-459	Optoelectronics	3.0
8	EEE-461	IC Processing and Fabrication Technology	3.0
9	EEE-463	Nanotechnology Fundamentals	3.0

Program Elective - Computer Group

SN	Course Code	Course Name	Credit
1	EEE-471	Artificial Intelligence	3.0
2	EEE-472	Artificial Intelligence Lab	1.5
3	EEE-473	Database Management System	3.0
4	EEE-474	Database Management System: Lab	1.5
5	EEE-475	Object Oriented Programming	3.0
6	EEE-476	Object Oriented Programming Lab	1.5
7	EEE-477	Cyber Security	3.0
8	EEE-478	Cyber Security Lab	1.5
9	EEE-479	Operating Systems	3.0
10	EEE-480	Operating Systems: Lab	1.5
11	EEE-481	Software Verification and Testing	3.0
12	EEE-482	Software Verification and Testing Lab	1.5
13	EEE-483	Bioinformatics Computing	3.0
14	EEE-484	Bioinformatics Computing Lab	1.5
15	EEE-486	Web Programming Lab	1.5

Program Elective - Power Group

SN	Course Code	Course Name	Credit
1	EEE-411	Power System II	3.0
2	EEE-413	Power Electronics	3.0
3	EEE-414	Power Electronics Lab	1.5
4	EEE-415	Power Plant Engineering	3.0
5	EEE-419	Renewable Energy Systems	3.0
6	EEE-417	Power System Protection	3.0
7	EEE-418	Power System Protection Lab	1.5
8	EEE-421	Power System Reliability	3.0
9	EEE-423	Advanced Machines	3.0

Program Elective - Communication Group

SN	Course Code	Course Name	Credit
1	EEE-431	RF and Microwave Engineering	3.0
2	EEE-432	RF and Microwave Engineering Lab	1.5
3	EEE-433	Advanced Communication Engineering	3.0
4	EEE-435	Advanced Digital Signal Processing	3.0
5	EEE-436	Advanced Digital Signal Processing Lab	1.5
6	EEE-439	Optical Fiber Communication	3.0
7	EEE-441	Satellite and Wireless Communication	3.0
8	EEE-437	Digital Image Processing	3.0
9	EEE-438	Digital Image Processing Lab	1.5