

BSC ELECTRICAL ENGINEERING

GENERAL ELECTRICAL ENGINEERING

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
Semester 1								
1.	Required	ELECTRICAL PRINCIPLES	AEEE170	4	50	13	52	5
2.	Required	PROGRAMMING PRINCIPLES I	ACSC182	4	50	13	52	5
3.	Required	CALCULUS AND ANALYTIC GEOMETRY I	AMAT111	3	50	13	39	5
4.	Required	LINEAR ALGEBRA WITH MATLAB	AMAT181	3	50	13	39	5
5.	Required	PHYSICS I	PHY111	4	50	13	52	5
6.	Free Elec.	FREE ELECTIVE		3	50	13	39	5
Semester 2								
7.	Required	DIGITAL LOGIC	ACOE161	5	50	13	65	5
8.	Required	CIRCUIT ANALYSIS I	AEEE222	4	50	13	52	5
9.	Required	ELECTRONICS I	AEEE238	4	50	13	52	5

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
10.	Required	CALCULUS AND ANALYTIC GEOMETRY II	AMAT122	3	50	13	39	5
11.	Required	PHYSICS II	PHY112	4	50	13	52	5
12.	Free Elec.	FREE ELECTIVE		3	50	13	39	5
Semester 3								
13.	Required	COMPUTER ORGANISATION AND ARCHITECTURE	ACOE201	5	50	13	65	5
14.	Required	DIGITAL SYSTEMS DESIGN	AEEE192	4	50	13	52	5
15.	Required	CIRCUIT ANALYSIS II	AEEE223	4	50	13	52	5
16.	Required	INSTRUMENTATION AND MEASUREMENTS	AEEE225	4	50	13	52	5
17.	Required	TECHNICAL WRITING AND COMMUNICATION	AENG201	3	50	13	39	5
18.	Required	DIFFERENTIAL EQUATIONS	AMAT204	3	50	13	39	5
Semester 4								

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
19.	Required	ELECTRONICS II	AEEE239	4	50	13	52	5
20.	Required	ELECTRICAL ENGINEERING WORKSHOP	AEEE298	4	50	13	52	5
21.	Required	RANDOM SIGNALS AND SYSTEMS	AEEE305	3	50	13	39	5
22.	Required	COMPUTATIONAL METHODS FOR ELECTRICAL ENGINEERS	AEEE319	3	50	13	39	5
23.	Required	GENERATION AND TRANSMISSION OF ELECTRICAL ENERGY	AEEE349	3	50	13	39	5
24.	Required	CALCULUS III	AMAT223	3	50	13	39	5
Semester 5								
25.	Required	SIGNALS SYSTEMS AND TRANSFORMS	AEEE310	3	50	13	39	6
26.	Required	INTRODUCTION TO ELECTROMAGNETICS	AEEE312	3	50	13	39	6

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
27.	Required	CONTROL ENGINEERING	AEEE345	4	50	13	52	6
28.	Required	POWER SYSTEM ANALYSIS	AEEE351	4	50	13	52	6
29.	Required	POWER ELECTRONICS	AEEE456	3	50	13	39	6
Semester 6								
30.	Required	TRANSMISSION LINES AND WAVES	AEEE313	4	50	13	52	6
31.	Required	COMMUNICATION SYSTEMS I	AEEE321	4	50	13	52	6
32.	Required	ELECTRICAL ENGINEERING PROBLEM SOLVING USING MATLAB AND SIMULINK	AEEE323	3	50	13	39	6
33.	Required	ELECTRICAL MACHINES	AEEE352	4	50	13	52	6
34.	Tech. El.	TECHNICAL ELECTIVE		3	50	13	39	6
Semester 7								
35.	Required	ROBOTICS	AEEE414	3	50	13	39	6
36.	Required	COMMUNICATION SYSTEMS II	AEEE422	4	50	13	52	6

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
37.	Required	INTRODUCTION TO SENIOR PROJECT	AEEE498	3	50	13	39	6
38.	Tech. El.	TECHNICAL ELECTIVE		3	50	13	39	6
39.	Tech. El.	TECHNICAL ELECTIVE		3	50	13	39	6
Semester 8								
40.	Required	REAL TIME EMBEDDED SYSTEMS	ACOE343	4	50	13	52	6
41.	Required	DIGITAL SIGNAL PROCESSING	AEEE424	3	50	13	39	6
42.	Required	SENIOR PROJECT	AEEE499	1	50	13	13	6
43.	Tech. El.	TECHNICAL ELECTIVE		3	50	13	39	6
44.	Tech. El.	TECHNICAL ELECTIVE		3	50	13	39	6

Technical Elective Courses

Num.	Code	Course Title	ECTS
1.	ACOE313	COMPUTER NETWORKS I	6
2.	ACOE323	COMPUTER NETWORKS II	6
3.	ACSC183	PROGRAMMING PRINCIPLES II	6
4.	ACSC368	ARTIFICIAL INTELLIGENCE	6
5.	AEEE138	ELECTRICAL AND ELECTRONIC MATERIALS AND DEVICES	6
6.	AEEE419	DIGITAL IMAGE PROCESSING	6
7.	AEEE423	RF ENGINEERING	6
8.	AEEE425	ANTENNAS AND RADARS	6
9.	AEEE431	MODERN CONTROL SYSTEMS ANALYSIS	6
10.	AEEE432	DYNAMIC CONTROL SYSTEMS LABORATORY	6
11.	AEEE433	DISCRETE CONTROL SYSTEMS	6
12.	AEEE434	INTRODUCTION TO OPTIMIZATION METHODS AND APPLICATIONS	6
13.	AEEE435	PROGRAMMABLE LOGIC CONTROLLERS FOR INDUSTRIAL APPLICATIONS	6
14.	AEEE438	VLSI DESIGN	6
15.	AEEE444	WIRELESS COMMUNICATIONS	6
16.	AEEE450	IEE WIRING REGULATIONS PART I	6
17.	AEEE451	IEE WIRING REGULATIONS PART II	6
18.	AEEE452	ELECTRICAL INSTALLATION DESIGN AND APPLICATIONS	6
19.	AEEE454	BASIC POWER SYSTEM PROTECTION	6
20.	AEEE455	POWER SYSTEM CONTROL AND STABILITY	6
21.	AEEE457	RENEWABLE ENERGY SOURCES	6
22.	AEEE458	LIGHTING ENGINEERING	6
23.	AEEE470	INDUSTRIAL PLACEMENT IN ELECTRICAL ENGINEERING	6
24.	AEEE471	SPECIAL TOPICS IN ELECTRICAL ENGINEERING I	6
25.	AEEE472	SPECIAL TOPICS IN ELECTRICAL ENGINEERING II	6
26.	AEEE493	FIBER OPTIC COMMUNICATIONS	6

BSC ELECTRICAL ENGINEERING

SPECIALIZATION: RENEWABLE ENERGY SOURCES AND SUSTAINABLE ENERGY SYSTEMS

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
Semester 1								
1.	Required	ELECTRICAL PRINCIPLES	AEEE170	4	50	13	52	5
2.	Required	PROGRAMMING PRINCIPLES I	ACSC182	4	50	13	52	5
3.	Required	CALCULUS AND ANALYTIC GEOMETRY I	AMAT111	3	50	13	39	5
4.	Required	LINEAR ALGEBRA WITH MATLAB	AMAT181	3	50	13	39	5
5.	Required	PHYSICS I	PHY111	4	50	13	52	5
6.	Free Elec.	FREE ELECTIVE		3	50	13	39	5
Semester 2								
7.	Required	DIGITAL LOGIC	ACOE161	5	50	13	65	5
8.	Required	CIRCUIT ANALYSIS I	AEEE222	4	50	13	52	5
9.	Required	ELECTRONICS I	AEEE238	4	50	13	52	5

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
10.	Required	CALCULUS AND ANALYTIC GEOMETRY II	AMAT122	3	50	13	39	5
11.	Required	PHYSICS II	PHY112	4	50	13	52	5
12.	Free Elec.	FREE ELECTIVE		3	50	13	39	5
Semester 3								
13.	Required	COMPUTER ORGANISATION AND ARCHITECTURE	ACOE201	5	50	13	65	5
14.	Required	DIGITAL SYSTEMS DESIGN	AEEE192	4	50	13	52	5
15.	Required	CIRCUIT ANALYSIS II	AEEE223	4	50	13	52	5
16.	Required	INSTRUMENTATION AND MEASUREMENTS	AEEE225	4	50	13	52	5
17.	Required	TECHNICAL WRITING AND COMMUNICATION	AENG201	3	50	13	39	5
18.	Required	DIFFERENTIAL EQUATIONS	AMAT204	3	50	13	39	5
Semester 4								

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
19.	Required	ELECTRONICS II	AEEE239	4	50	13	52	5
20.	Required	ELECTRICAL ENGINEERING WORKSHOP	AEEE298	4	50	13	52	5
21.	Required	RANDOM SIGNALS AND SYSTEMS	AEEE305	3	50	13	39	5
22.	Required	COMPUTATIONAL METHODS FOR ELECTRICAL ENGINEERS	AEEE319	3	50	13	39	5
23.	Required	GENERATION AND TRANSMISSION OF ELECTRICAL ENERGY	AEEE349	3	50	13	39	5
24.	Required	CALCULUS III	AMAT223	3	50	13	39	5
Semester 5								
1.	Required	INTRODUCTION TO RENEWABLE ENERGY SYSTEMS	AEEE260	3	50	13	39	6
2.	Required	SIGNALS SYSTEMS AND	AEEE310	3	50	13	39	6

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
		TRANSFORMS						
3.	Required	INTRODUCTION TO ELECTROMAGNETICS	AEEE312	3	50	13	39	6
4.	Required	POWER SYSTEM ANALYSIS	AEEE351	4	50	13	52	6
5.	Required	SUSTAINABLE ENERGY I	AEEE361	3	50	13	39	6
Semester 6								
6.	Required	TRANSMISSION LINES AND WAVES	AEEE313	4	50	13	52	6
7.	Required	COMMUNICATION SYSTEMS I	AEEE321	4	50	13	52	6
8.	Required	ELECTRICAL MACHINES	AEEE352	4	50	13	52	6
9.	Required	SOLAR ENERGY	AEEE360	4	50	13	52	6
10.	Required	WIND ENERGY	AEEE362	3	50	13	39	6
Semester 7								
11.	Required	CONTROL ENGINEERING	AEEE345	4	50	13	52	6

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
12.	Required	DESIGN OF PHOTOVOLTAIC SYSTEMS	AEEE460	3	50	13	39	6
13.	Required	RENEWABLE ENERGY SOURCES INSTRUMENTATION AND MEASUREMENTS	AEEE461	3	50	13	39	6
14.	Required	INTRODUCTION TO SENIOR PROJECT	AEEE498	3	50	13	39	6
15.	Tech. El.	RES &SES TECHNICAL ELECTIVE		3	50	13	39	6
Semester 8								
16.	Required	DIGITAL SIGNAL PROCESSING	AEEE424	3	50	13	39	6
17.	Required	RES &SES SENIOR PROJECT	AEEE499	1	50	13	13	6
18.	Tech. El.	RES &SES TECHNICAL ELECTIVE		3	50	13	39	6
19.	Tech. El.	RES &SES TECHNICAL ELECTIVE		3	50	13	39	6

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration (min.)	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
20.	Tech. El.	RES &SES TECHNICAL ELECTIVE		3	50	13	39	6

Specialization RES &SES Technical Elective Courses

Num.	Code	Course Title	ECTS
1.	AEEE458	LIGHTING ENGINEERING	6
2.	AEEE462	SMART GRIDS AND CONTROL	6
3.	AEEE463	THIN FILM SOLAR CELLS	6
4.	AEEE464	POWER ELECTRONICS FOR RENEWABLE ENERGY SYSTEMS	6
5.	AEEE465	NANOTECHNOLOGY APPLICATIONS	6
6.	AEEE466	SUSTAINABLE ENERGY II	6
7.	AEEE470	INDUSTRIAL PLACEMENT IN ELECTRICAL ENGINEERING	6
8.	AEEE473	SPECIAL TOPICS IN RES & SES ENGINEERING I	6
9.	AEEE474	SPECIAL TOPICS IN RES & SES ELECTRICAL ENGINEERING II	5