Courses Description
Department of Electrical Engineering
Electronic and Communications
2020-2021

Academic Program Description form

University Name: University of Mosul

Faculty / Institute: College of Engineering

Scientific Department: Electrical Engineering

Academic or Professional Program Name:
B.Sc. Electrical Engineering / Electronics and Communication
B.Sc. Electrical Engineering / Power and Machines

Final Certificate Name: B.Sc. in Electrical Engineering

Academic System: Courses System + Bologna Process

Description Preparation Date: March, 2024

File Completion Date: March, 2024

Signature:

Head of Department Name:

Dr. Mohammad Tariq Yaseen

Date: March, 2024

Signature:

Scientific Associate Name:

Dr. Ayman T.Hameed

Date: March, 2024

The file is checked by: Department of Quality Assurance and University Performance

Director of Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

a) Undergraduate

Courses / College of Engineering / University of Mosul / First level for the academic year 2020-2021 / Department of Electrical Engineering

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
				Fall Semester / First Level				
	UOMC101	-	3	-	3	English Language	Compulsory	University requirements
	UOMC102	-	3	2	2	Computer	Compulsory	University requirements
	UOMC103	-	2	-	2	Rights and Freedoms	Compulsory	University requirements
	ENGC121	-	3	-	3	Calculus I	Compulsory	College requirements
	ENGC123	-	1	3	-	Engineering Drawings	Compulsory	College requirements
Compulsory for Dept. Students	ENGE133	-	2	-	2	Physics	Elective	College requirements
	ELCA100	-	4	2	3	Electrical Circuit Analysis I	Compulsory	Department requirements
			18	7	15	Total Hours		

Spring Semester / First Level							
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	UOMC 100	-	2	-	2	Arabic Language	Compulsory	University requirements
The student should select one subject only (no. of units =2 only)	-	-	2	-	2	Manufacturing Processes	Elective	
	-	-	2	-	2	Environmental Pollution	Elective	
	-	-	2	-	2	Information Technology	Elective	
	ENGC122	Calculus I	3	-	3	Calculus II	Compulsory	College requirements
	ENGC124	Engineering Drawing	1	3	-	Auto-CAD	Compulsory	
Compulsory for Dept. Students	ENGE132	-	3	-	3	Engineering Mechanics	Elective	
	ELCA 150	Electrical Circuit Analysis I	4	2	3	Electrical Circuit Analysis II	Compulsory	Department requirements
	PHEC151	Physics	3	-	3	Electronic Physics	Compulsory	
			18	5	16		Total Hours	

Courses / College of Engineering / University of Mosul / Second Level for the academic year 2020-2021 / Department of Electrical Engineering

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
				Fall Semester / Second Level – E&C				
English Subject in this level equal 1 unit because it was 3 units in first level	The name will be standardized by the course unit/college	-	1	-	1	English Language-Pre intermediate	Compulsory	University requirements
Compulsory for Dept. Students	ENGC 228	Calculus II	3	-	3	Engineering Mathematics I	Elective	College requirements
	ACOM 201	Electrical Circuit Analysis II, Calculus II	4	-	4	Analog Communications	Compulsory	Department requirements
	ENET 202	Electrical Circuit Analysis II, Calculus II	4	-	4	Electric Networks	Compulsory	
	COMP 206	Computer	3	2	2	Computer Programming	Compulsory	
	ELAB 210	Electrical Circuit Analysis II	1	2	-	Electrical Engineering Lab I	Compulsory	
The student should select one subject only (no. of units =2 only)	SOCS 203	Electronics Physics	2	-	2	Solar Cell Systems	Elective	
	ELCI 214	Electronics Physics				Electronic Circuits	Elective	
			18	4	16	Total Hours		

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
						Spring Semester / Second Level – E&C		
Compulsory for Dept. Students	ENGC 230	Calculus I	3	-	3	Engineering Mathematics II	Elective	College requirements
	PHEC 251	Electronics Physics	3	-	3	Analog Electronics	Compulsory	Department requirements
	SIGS 252	Electrical Circuit Analysis I, Calculus II	2	-	2	Signals & Systems	Compulsory	
	EMGT 254	Electrical Circuit Analysis II, Calculus I	3	-	3	Electromagnetic Theory	Compulsory	
	MAPS 253	Electrical Circuit ,Analysis II Calculus II	2	-	2	Machines & Power Systems	Compulsory	
	DIGT208	-	2	-	2	Digital Techniques	Compulsory	
	ELAB 260	Electrical Engineering Lab I	1	2	-	Electrical Engineering Lab II	Compulsory	
The student should select one subject only (no. of units =2 only)	MODS 262	Computer Programming	2	2	1	Basics of Modeling and Simulation	Elective	
	COAP 264	Computer Programming				Computer Applications		
			18	4	16	Total Hours		

Annual / College of Engineering / University of Mosul / Third Class for the academic year 2020-2021 / Department of Electrical Engineering / Electronics & Communications

Course No.	Subject	First Term			Second Term			Units No.
		Theo.	Pract.	App	Theo.	Pract.	App.	
EEC 301	Statistics & Engineering Economics	2	-	-	2	-	-	4
EEC 302	Engineering Analysis	2	-	1	2	-	1	4
EEC 303	Radiation & Propagation	2	-	1	2	-	1	4
EEC 304	Digital Communications	3	-	1	3	-	1	6
EEC 305	Electronics II	2	-	1	2	-	1	4
EEC 306	Digital Electronics	2	-	1	2	-	1	4
EEC 307	Computer Engineering	2	-	1	2	-	1	4
EEC 308	Elective Subjects (Measurements)	2	-	1	2	-	1	4
EEC 309	Electronics & Communications Lab.	-	6	-	-	6	-	4
Total		17	17	6	7	17	6	7
		29			30			30

Note: The student is required to complete the summer training after the end of the second semester of the third level

Course No.	Subject	First Term			Second Term			Units No.
		Theo.	Pract.	App.	Theo.	Pract.	App.	
EEC 401	Engineering Project	1	3	-	1	3	-	4
EEC 402	Engineering Control	3	-	1	3	-	1	6
EEC 403	Communication Engineering	3	-	-	3	-	-	6
EEC 404	Digital Signal Processing (DSP)	2	-	1	2	-	1	4
EEC 405	Microelectronic	2	-	1	2	-	1	4
EEC 406	Computer Networks	2	-	1	2	-	1	4
EEC 407	Elective Subjects (Computer interfacing systems)	2	-	-	2	-	-	4
EEC 408	Laboratories	-	6	-	-	6	-	4
Total		15	9	4	15	9	4	36
		28			28			

b) Postgraduate

	Subject	Type	Hours	Units	Code
Master	Antennas and Wave (Elective)	Semesters	2	2	EEE644
	Microelectronics (Elective)	Semesters	2	2	EEE 653
	Digital Signal Processing (Compulsory)	Semesters	2	2	EEE652
	Engineering Analysis (Compulsory)	Semesters	2	2	EEE 640
	Modern Control Theory (Compulsory)	Semesters	2	2	EEE 647
	Modeling and Simulation(Compulsory)	Semesters	2	2	EEP 670
	Power Electronics (Compulsory)	Semesters	2	2	EEP 667
	A.C. Machines (Elective)	Semesters	2	2	EEP669
	Power System Analysis (Elective)	Semesters	2	2	EEP683
	Antennas and Wave (Elective)	Semesters	2	2	EEE646
	Microwave Devices (Elective)	Semesters	2	2	
	Computer Networks (Elective)	Semesters	2	2	EEE661
	Programmable Controllers(Compulsory)	Semesters	2	2	EEE680
	English Language II (Compulsory)	Semesters	2	2	
	Scientific Research Methods (Compulsory)	Semesters	1	1	EEE 690
	Electrical Drive (Elective)	Semesters	2	2	EEP 672
	Advanced High Voltage (Elective)	Semesters	2	2	EEP 671
	Power System Protection (Elective)	Semesters	2	2	

	Subject	Type	Hours	Units	Code
PhD	Advanced Communication Systems (Elective)	Semesters	2	2	EED709
	CMOS Integrated Circuits (Elective)	Semesters	2	2	
	Advanced Antenna Theory (Elective)	Semesters	2	2	EED708
	Advanced Control Systems (Compulsory)	Semesters	2	2	EED710
	Advanced DSP (Compulsory)	Semesters	2	2	
	Advanced Topics in Electrical (Compulsory)	Semesters	2	2	EED720
	Advanced Electrical Drives (Elective)	Semesters	2	2	EED714
	Flexible A C Transmission System (FACTS) (Elective)	Semesters	2	2	EED706
	Power Systems Stability (Elective)	Semesters	2	2	EED712
	Wave Propagation (Elective)	Semesters	2	2	EED718
	Computer Network Security (Elective)	Semesters	2	2	EED717
	Advanced Microprocessors (Elective)	Semesters	2	2	
	English Language II (Compulsory)	Semesters	2	2	
	Research Methodology (Compulsory)	Semesters	1	1	
	& Advanced Modeling Simulation (Compulsory)	Semesters	2	2	EED701
	Smart Grids and Renewable Energy (Compulsory)	Semesters	2	2	EED711
	Advanced Alternating Machines (Elective)	Semesters	2	2	EE768
	Advanced High Voltage DC (Elective)	Semesters	2	2	
	: Modern Protection Systems (Elective)		2	2	EED704