

Ministry of Higher Education and Scientific Research
University of Mosul
College of Engineering
Department of Electrical Engineering



Courses Description

Department of Electrical Engineering

Power and Machines

2022-2023

a) Undergraduate

Semesters / College of Engineering / University of Mosul / First year for the academic year 2022-2023 / Department of Electrical Engineering

First Year / /First Semester					
Notes	Code	Credits	Lab	Theoretical	Title
	EE 101	2	-	2	Human Rights and Democracy
	EE 102	2	-	3	Digital Techniques I
	EE 103	1	3	-	Engineering Drawing, I
	EE 104	3	2	2	Computer fundamentals
	EE 105	2	-	2	Principle of Mechanical Eng. I
	EE 108	3	-	4	Basics of Electrical Engineering I
	EE 106	3	-	4	Calculus I
	EE 107	2	-	3	Electronics Physics I
	EE 109	1	2	-	Laboratories
		19	7	20	Total Hours

Semesters / College of Engineering / University of Mosul / First year for the academic year 2022-2023 / Department of Electrical Engineering

First Year // Second Semester					
Notes	Code	Credits	Lab	Theoretical	Title
	EE 113	1	3	-	Engineering Drawing II
	EE 112	2	-	3	Digital Techniques II
	EE 114	3	2	2	Programing Language
	EE 115	2		2	Principle of Mechanical Eng. II
	EE 118	3	-	4	Basics of Electrical Engineering II
	EE 111	2	-	2	English Language
	EE 116	3	-	4	Calculus II
	EE 117	2	-	3	Electronics Physics II
	EE 119	1	2	-	Laboratories
		19	7	20	Total Hours

Courses / College of Engineering / University of Mosul / Second Level for the academic year 2022-2023 / Department of
Electrical Engineering

Fall Semester / Second Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
English Subject in this level equal 1 unit because it was 3 units in first level.		-	1	-	1	English Language-Pre intermediate	Compulsory	University requirements
Compulsory for Dept. Students	ENGE228	I, II Calculus	3	-	3	Engineering Mathematics I	Elective	College requirements
	ENET202	Electrical Circuit Analysis II, Calculus I, II	4	-	4	Electric Networks	Compulsory	Department requirements
	ELTR204	Electrical Circuit Analysis II, Calculus II	3	-	3	Electrical Transformers	Compulsory	
	COMP206	Computer	3	2	2	Computer Programming	Compulsory	
	ELAB210	Electrical Circuit Analysis II	1	2	-	Electrical Engineering Lab I	Compulsory	
The student should select one subject only (no. of units =2 only)	ECFU 212	Physics of Electronics	2	-	2	Electronics Fundamentals	Elective	
	ELCI214	Physics of Electronics				Electronic Circuits	Elective	
			18	4	16	Total Hours		

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Spring Semester / Second Level – P&M

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
Compulsory for Dept. Students	ENGE 230	Calculus I	3	-	3	Engineering Mathematics II	Elective	College requirements
	PEXT 250	Electrical Circuit Analysis II	3	-	3	Electronics I Power	Compulsory	Department requirements
	SIGS 252	Electrical Circuit Analysis ,I Calculus II	2	-	2	Systems & Signals	Compulsory	
	EMGT 254	Electrical Circuit Analysis ,II Calculus I	3	-	3	Electromagnetic Theory	Compulsory	
	DCMA 256	Electrical Transformers Electrical Circuit Analysis II	3	-	3	DC Machines	Compulsory	
	DISS 258	Electrical Transformers Electrical Circuit Analysis II	2	-	2	Distribution Systems	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		

Courses / College of Engineering / University of Mosul / Third level for the academic year 2022-2023 / Department of Electrical Engineering

Fall Semester / Third Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
Compulsory for Dept. Students	ENGE 320	Calculus I, II	2	-	2	Numerical Analysis	Elective	College requirements
	ENGC 327	-	2	-	2	Statistics	Compulsory	
	TRCY 300	Electrical Circuit Analysis II	3	-	3	Transmission Systems	Compulsory	Department requirements
	PECT 302	Power Electronics I	3	-	3	Power Electronics	Compulsory	
	INMA 304	Electrical Transformers	3	-	3	Induction Machines	Compulsory	
	ELAB 306	Electrical Engineering Lab II	2	6	-	& Power Machines Lab I	Compulsory	
The student should select one subject only (no. of units =2 only)	ELCD 312	Electrical Circuit Analysis I	2	-	2	Electrical Circuits Design	Elective	
	RENE 316	Electrical Circuit Analysis I				Renewable Energy		
The student should select one subject only (no. of units =2 only)	DSIP 405	Signals & Systems	2	-	2	Digital Signal Processing	Elective	
	MICP 316	Digital Techniques				Microprocessors		
			19	6	17	Total Hours		

Spring Semester / Third Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	-	-	2	-	2	English Language Intermediate	Compulsory	University requirements
	ENGC 326	-	2	-	2	Engineering Economic	Compulsory	College requirements
	MINC 350	Electrical Circuit Analysis I	3	-	3	Electrical Measurements	Compulsory	Department requirements
	ICOS 352	Signals & Systems	3	-	3	Introduction to Control Systems	Compulsory	
	ECSS 354	Signals & Systems	2	-	2	Electronic and Communication Systems	Compulsory	
	CYMA 356	Electrical Transformers	3	-	3	Synchronous Machines	Compulsory	
	PLAB 355	Power and Machine Lab 1	2	6	-	Lab II Machines & Power	Compulsory	
يختار الطالب مقرر واحد ، عدد الوحدات المطلوبة 2 وحدة	PCON 362	Digital Techniques	2	-	2	Programmable Controller	Elective	
	AINT 364	Signals & Systems				Artificial Intelligence		
			19	6	17	Total Hours		

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

Courses / College of Engineering / University of Mosul / Fourth level for the academic year 2022-2023 / Department of
Electrical Engineering

Fall Semester / Fourth Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	PSAN 400	Numerical Analysis	4	-	4	Power System Analysis	Compulsory	Department requirements
	COSA 402	-Introduction to Control Systems	4	-	4	Control Systems Analysis	Compulsory	
	SPIM 404	Induction Machines	3	-	3	Single Phase Induction Motors	Compulsory	
	PGST 406	Synchronous Machines	2	-	2	Power Generating Stations	Compulsory	
	MLAB 408	Power & Machines Lba II	2	6	-	& Power Machines Lab III	Compulsory	
	GPRO 410	All compulsory department requirements for the third level	2	-	2	Graduation Project I	Compulsory	
The student should select one subject only (no. of units =2 only)	HVDC 414	Power Electronics II	2	-	2	High Voltage DC	Elective	
	SGRD 416	Electrical Circuit Analysis II				Smart Power Grid Systems		
			19	6	17	Total Hours		

Spring Semester / Fourth Level – P&M

Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	UOMC 104	-	2	-	2	Professional Ethics	Compulsory	University requirements
	-	-	2	-	2	English -Language Upper Intermediate	Compulsory	
	ENGC425	-	2	-	2	Engineering Management	Compulsory	College requirements
	PSRP 450	Transmission Systems	3	-	3	Power System Protection	Compulsory	Department requirements
	HVEN 452	Electronic Physics Electromagnetic Theory	3	-	3	High Voltage Engineering	Compulsory	
	SPEM 458	Induction Machines	2	-	2	Special Electrical Machines	Compulsory	
	GPRO454	Graduation Project I	2	-	2	Graduation Project II	Compulsory	
	MLAB456	Power & Machines Lab III	2	6	-	Power & Machines Lab IV	Compulsory	
The student should select one subject only (no. of units =2 only)	ELDR 462	Power Electronics II	2	-	2	Electrical Derives	Elective	
	ENEM 460	Power Generating Stations Power Electronics II				Energy Management	Elective	
			20	6	18	Total Hours		