

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

2023-2024

a) Undergraduate

Bologna Process / College of Engineering / University of Mosul / First level for the academic year 2023-2024 / Department of Electrical Engineering

Fall Semester / First Level						
Notes	Units	Practical hours	Theoretical hours	Subject	Type	
	2	-	2	Basics of Electrical Engineering I	Core learning activity	Department requirements
	3	2	2	Mathematics I	Basic learning activities	
	3	-	2	Engineering drawing	Support or related learning activity	
	8	2	4	Physics	Basic learning activities	
	6	-	4	mechanics Engineering	Support or related learning activity	
	4	2	2	Computer	Basic learning activities	University requirements
	4	-	2	Arabic Language	Support or related learning activity	
	30	6	18	Total Hours		

Spring Semester / First Level							
Notes	Code	Units	Practical hours	Theoretical hours	Subject	Type	
	UOM102	2	-	2	Basics of Electrical Engineering II	Core learning activity	Department requirements
	UOM104	2	-	2	Mathematics II	Basic learning activities	
	EE111	3		3	Computer Programming	Basic learning activities	
	EE108	8	2	4	Digital Techniques	Core learning activity	
	EE109	6	-	4	Electronics Physics	Basic learning activities	
	EE110	6	2	2	Democracy and Human Rights	Support or related learning activity	University requirements
	EE112	3	-	3	English Language	Support or related learning activity	
		30	4	18	Total Hours		

Semesters / College of Engineering / University of Mosul / second year for the academic year 2023-2024 / Department of
Electrical Engineering

Second Year/ First semester /Electronic and communications					
Code	Title	Theoretical	Lab.	Credits	Notes
EEP 201	Management & Industrial Safety I	2	-	2	
EEP 202	Engineering Mathematics I	4	-	3	
EEP 203	Computer Application I	3	2	3	
EEP 205	Electronics I	3	-	2	
EEP 208	Electric Networks I	3	-	2	
EEP 204	Electromagnetic Fields I	3	-	2	
EEP 209	D.C. Distribution Systems	2	-	2	
EEP 206	Machines I	4	-	3	
EEP 207	Laboratories I	-	2	1	
		24	4	20	

Second Year/Second semester /Electronic and communications					
Code	Title	Theoretical	Lab.	Credits	Notes
EEP 211	Management & Industrial Safety II	2	-	2	
EEP 212	Engineering Mathematics II	4	-	3	
EEP 213	Computer Application II	3	2	3	
EEP 215	Electronics II	3	-	2	
EEP 218	Electric Networks II	3	-	2	
EEP 214	Electromagnetic Fields II	3	-	2	
EEP 219	A.C. Distribution Systems	2	-	2	
EEP 216	Machines II	4	-	3	
EEP 217	Laboratories II	-	2	1	
		24	4	20	

Courses / College of Engineering / University of Mosul / Third level for the academic year 2023-2024 / 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 2023-2024 / 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		