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Electrical Engineering Curriculum

Majmaah University
College of Engineering



First Year	Electrical Engineering						Track: Power & Machine						
	First Semester						Second Semester						
	Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours	Course code	Course Title	Pre-Req.	Co-Req.	CH	Hours	
	ARAB 101	Arabic Language Skills			2	(2,0,0)	MATH 106	Integral Calculus	MATH 105		3	(3,1,0)	
	MATH 105	Differential Calculus			3	(3,1,0)	MATH 107	Algebra and Analytical Geometry			3	(3,1,0)	
	PHY 103	General Physics			4	(3,1,2)	GE 108	Engineering Mechanics (Dynamics)	GE 103		3	(3,1,0)	
	GE 101	Fundamentals of Engineering Technology			2	(1,0,2)	GE 105	Engineering Chemistry			3	(3,1,0)	
	GE 102	Fundamentals of Engineering Drawing			3	(1,0,4)	EE 101	Fundamentals of Electric Circuits	MATH 107		3	(3,1,0)	
GE 103	Engineering Mechanics (Statics)			3	(3,1,0)	EE 111	Basic Electronic Devices and Circuits		EE 101	3	(3,1,0)		
					17							18	
Second Year	First Semester						Second Semester						
	IC 101	Introduction to Islamic Culture			2	(2,0,0)	STAT 201	Statistics and Probability			3	(3,1,0)	
	MATH 204	Differential Equations	MATH 106 MATH 107		3	(3,1,0)	CEN 210	Introduction To Programming			3	(2,0,2)	
	EE 205	Electric Circuits Lab.		EE 101	1	(0,0,2)	EE 288	Principles of Electric Machines	EE 202		3	(3,1,0)	
	EE 208	Logic Design			3	(3,1,0)	EE 234	Electromagnetics 2	EE 206		3	(3,1,0)	
	EE 207	Logic Design Lab.		EE 208	1	(0,0,2)	EE 221	Signals and Systems Analysis	MATH 204		3	(3,1,0)	
	EE 202	Electric Circuits Analysis	EE 101		3	(3,1,0)	EE 270	Fundamentals of Electrical Power Systems	EE 206		2	(2,1,0)	
	EE 206	Electromagnetics 1	MATH 107		3	(3,1,0)	EE 271	Principles of Electric Power and Machines Lab		EE 288 EE 270	1	(0,0,2)	
EE 212	Basic of Electronic Devices and Circuits Lab.	EE 111		1	(0,0,2)						18		
					17								
Third Year	First Semester						Second Semester						
	IC 102	Islam and Society Development			2	(2,0,0)	ARAB 103	Arabic Editing			2	(2,0,0)	
	GE 306	Engineering Report Writing	STAT 201		2	(2,0,0)	MATH 254	Numerical Methods	MATH 204		3	(3,1,0)	
	EE 341	Automatic Control Systems	EE 221		3	(3,1,0)	EE 361	Microprocessors Lab		EE 360	1	(0,0,2)	
	EE 307	Analog and Digital Measurements	EE 208		3	(3,1,0)	EE 389	Electric Machines	EE 288		3	(3,1,0)	
	EE 308	Measurements and Control Lab.		EE 307 EE 341	1	(0,0,2)	EE 372	Electric Power Systems Analysis	EE 288 EE 270		3	(3,1,0)	
	EE 322	Communications Principles	EE 221 STAT 201		3	(3,1,0)	EE 373	Electric Power and Machine Lab 2		EE 372 EE 389	1	(0,0,2)	
	EE 323	Communications Principles Lab.		EE 322	1	(0,0,2)	EE 374	Power Electronics	EE 288		3	(3,1,0)	
EE 360	Microprocessors	EE 208 EE 111		3	(3,1,0)						16		
					18								
EE 399						Summer Training						0	
Fourth Year	First Semester						Second Semester						
	IC 103	Economic System in Islam			2	(2,0,0)	IC 104	Fundamentals of the Political System in Islam			2	(2,0,0)	
	GE 407	Engineering Economy			2	(2,1,0)	GE 408	Project Management	GE 407		2	(2,1,0)	
	EE 475	Applied Control	EE 341		3	(3,1,0)	EE 478	Distribution System Planning	EE 372		2	(2,1,0)	
	EE 476	Power Systems Protection	EE 372		3	(3,1,0)	EE 479	Protection & High Voltage Lab.	EE 477		1	(0,0,2)	
	EE 477	High-Voltage Engineering Systems	EE 270		3	(3,1,0)	EE 4**	Elective (2)			3	(3,1,0)	
	EE 4**	Elective (1)			2	(2,1,0)	EE 4**	Elective (3)			3	(3,1,0)	
	EE 498	Senior Design (1)			2	(1,0,2)	EE 499	Senior Design (2)	EE 498		2	(1,0,2)	
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Electrical Engineering

Track: Communications & Electronics

First Year	First Semester					
	Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours
	ARAB 101	Arabic Language Skills			2	(2,0,0)
	MATH 105	Differential Calculus			3	(3,1,0)
	PHY 103	General Physics			4	(3,1,2)
	GE 101	Fundamentals of Engineering Technology			2	(1,0,2)
	GE 102	Fundamentals of Engineering Drawing			3	(1,0,4)
	GE 103	Engineering Mechanics (Statics)			3	(3,1,0)
					17	

Second Semester					
Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours
MATH 106	Integral Calculus	MATH 105		3	(3,1,0)
MATH 107	Algebra and Analytical Geometry			3	(3,1,0)
GE 108	Engineering Mechanics (Dynamics)	GE 103		3	(3,1,0)
GE 105	Engineering Chemistry			3	(3,1,0)
EE 101	Fundamentals of Electric Circuits	MATH 107		3	(3,1,0)
EE 111	Basic Electronic Devices and Circuits		EE 101	3	(3,1,0)
				18	

Second Year	First Semester					
	IC 101	Introduction to Islamic Culture			2	(2,0,0)
	MATH 204	Differential Equations	MATH 106 MATH 107		3	(3,1,0)
	EE 205	Electric Circuits Lab.		EE 101	1	(0,0,2)
	EE 208	Logic Design			3	(3,1,0)
	EE 207	Logic Design Lab.		EE 208	1	(0,0,2)
	EE 202	Electric Circuits Analysis	EE 101		3	(3,1,0)
	EE 206	Electromagnetics 1	MATH 107		3	(3,1,0)
	EE 212	Basic of Electronic Devices and Circuits Lab.	EE 111		1	(0,0,2)
					17	

Second Semester					
STAT 201	Statistics and Probability			3	(3,1,0)
CEN 210	Introduction To Programming			3	(2,0,2)
EE 288	Principles of Electric Machines	EE 202		3	(3,1,0)
EE 234	Electromagnetics 2	EE 206		3	(3,1,0)
EE 221	Signals and Systems Analysis	MATH 204		3	(3,1,0)
EE 270	Fundamentals of Electrical Power Systems	EE 206		2	(2,1,0)
EE 271	Principles of Electric Power and Machines Lab		EE 288 EE 270	1	(0,0,2)
				18	

Third Year	First Semester					
	IC 102	Islam and Society Development			2	(2,0,0)
	GE 306	Engineering Report Writing	STAT 201		2	(2,0,0)
	EE 341	Automatic Control Systems	EE 221		3	(3,1,0)
	EE 307	Analog and Digital Measurements	EE 207		3	(3,1,0)
	EE 308	Measurements and Control Lab.		EE 307 EE 341	1	(0,0,2)
	EE 322	Communications Principles	EE 221 STAT 201		3	(3,1,0)
	EE 323	Communications Principles Lab.		EE 322	1	(0,0,2)
	EE 360	Microprocessors	EE 208 EE 111		3	(3,1,0)
					18	

Second Semester					
ARAB 103	Arabic Editing			2	(2,0,0)
MATH 254	Numerical Methods	MATH 204		3	(3,1,0)
EE 361	Microprocessors Lab		EE 360	1	(0,0,2)
EE 314	Analog and Digital Electronic Circuits	EE 111		3	(3,1,0)
EE 315	Analog and Digital Electronic Circuits Lab		EE 314	1	(0,0,2)
EE 324	Digital Signal Processing	EE 221		3	(3,1,0)
EE 325	Digital Communications	EE 322		3	(3,1,0)
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EE 399	Summer Training	0
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Fourth Year	First Semester					
	IC 103	Economic System in Islam			2	(2,0,0)
	GE 407	Engineering Economy			2	(2,1,0)
	EE 435	Antennas & Wave Propagation	EE 234		3	(3,1,0)
	EE 426	Wireless Communications	EE 325		3	(3,1,0)
	EE 427	Communication and Signal Processing Lab.	EE 324 EE 325		1	(0,0,2)
	EE 436	Antennas and Wave Propagation Lab.		EE 435	1	(0,0,2)
	EE 4**	Elective (1)			3	(3,1,0)
	EE 498	Senior Design (1)			2	(1,0,2)
					17	

Second Semester					
IC 104	Fundamentals of the Political System in Islam			2	(2,0,0)
GE 408	Project Management	GE 407		2	(2,1,0)
EE 415	VLSI Circuit Design	EE 314		3	(3,1,0)
EE 4**	Elective (2)			3	(3,1,0)
EE 4**	Elective (3)			3	(3,1,0)
EE 499	Senior Design (2)	EE 498		2	(1,0,2)
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Electrical Engineering

First Year	First Semester					
	Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours
	ARAB 101	Arabic Language Skills			2	(2,0,0)
	MATH 105	Differential Calculus			3	(3,1,0)
	PHY 103	General Physics			4	(3,1,2)
	GE 101	Fundamentals of Engineering Technology			2	(1,0,2)
	GE 102	Fundamentals of Engineering Drawing			3	(1,0,4)
	GE 103	Engineering Mechanics (Statics)			3	(3,1,0)
					17	

Second Year	First Semester					
	IC 101	Introduction to Islamic Culture			2	(2,0,0)
	MATH 204	Differential Equations	MATH 106 MATH 107		3	(3,1,0)
	EE 205	Electric Circuits Lab.		EE 101	1	(0,0,2)
	EE 208	Logic Design			3	(3,1,0)
	EE 207	Logic Design Lab.		EE 208	1	(0,0,2)
	EE 202	Electric Circuits Analysis	EE 101		3	(3,1,0)
	EE 206	Electromagnetics 1	MATH 107		3	(3,1,0)
	EE 212	Basic of Electronic Devices and Circuits Lab.	EE 111		1	(0,0,2)
					17	

Third Year	First Semester					
	IC 102	Islam and Society Development			2	(2,0,0)
	GE 306	Engineering Report Writing	STAT 201		2	(2,0,0)
	EE 341	Automatic Control Systems	EE 221		3	(3,1,0)
	EE 307	Analog and Digital Measurements	EE 208		3	(3,1,0)
	EE 308	Measurements and Control Lab.		EE 307 EE 341	1	(0,0,2)
	EE 322	Communications Principles	EE 221 STAT 201		3	(3,1,0)
	EE 323	Communications Principles Lab.		EE 322	1	(0,0,2)
	EE 360	Microprocessors	EE 208 EE 111		3	(3,1,0)
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EE 399	Summer Training	0
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Fourth Year	First Semester					
	IC 103	Economic System in Islam			2	(2,0,0)
	GE 407	Engineering Economy			2	(2,1,0)
	EE 451	Modeling and Simulation of Dynamic Systems	MATH 204	EE 343	3	(3,1,0)
	EE 442	Automatic Control Lab	EE 343	EE 308	1	(0,0,2)
	EE 452	Advance system Engineering			3	(3,1,0)
	EE 4**	Elective (1)			3	(3,1,0)
	EE 498	Senior Design (1)			2	(1,0,2)
					16	

Track: Control & Systems

Second Semester					
Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours
MATH 106	Integral Calculus	MATH 105		3	(3,1,0)
MATH 107	Algebra and Analytical Geometry			3	(3,1,0)
GE 108	Engineering Mechanics (Dynamics)	GE 103		3	(3,1,0)
GE 105	Engineering Chemistry			3	(3,1,0)
EE 101	Fundamentals of Electric Circuits	MATH 107		3	(3,1,0)
EE 111	Basic Electronic Devices and Circuits		EE 101	3	(3,1,0)
				18	

Second Semester					
Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours
STAT 201	Statistics and Probability			3	(3,1,0)
CEN 210	Introduction To Programming			3	(2,0,2)
EE 288	Principles of Electric Machines	EE 202		3	(3,1,0)
EE 234	Electromagnetics 2	EE 206		3	(3,1,0)
EE 221	Signals and Systems Analysis	MATH 204		3	(3,1,0)
EE 270	Fundamentals of Electrical Power Systems	EE 206		2	(2,1,0)
EE 271	Principles of Electric Power and Machines Lab		EE 288 EE 270	1	(0,0,2)
				18	

Second Semester					
Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours
ARAB 103	Arabic Editing			2	(2,1,0)
EE 362	Introduction to Robotics and Mechatronics	MATH 107 GE 108		3	(3,1,0)
EE 343	Automatic Control	EE 341	EE 308	3	(3,1,0)
EE 361	Microprocessors Lab		EE 360	1	(0,0,2)
EE 350	Discrete Event and Hybrid Systems	EE 221 EE 307		2	(2,1,0)
MATH 254	Numerical Methods	MATH 204		3	(3,1,0)
EE 363	Programmable Logic Controllers			2	(2,1,0)
				16	

Second Semester					
Course Code	Course Title	Pre-Req.	Co-Req.	CH	Hours
IC 104	Fundamentals of the Political System in Islam			2	(2,0,0)
GE 408	Project Management	GE 407		2	(2,1,0)
EE 464	Robotics and Mechatronics Lab	EE 361 EE 362	EE 307 EE 308	1	(0,0,2)
EE 4**	Elective (2)			3	(3,1,0)
EE 4**	Elective (3)			3	(3,1,0)
EE 499	Senior Design (2)	EE 498		2	(1,0,2)
EE 453	Introduction to Intelligent systems			3	(3,1,0)
				16	