

**Al Ghurair University**  
**College of Engineering and Computing**  
**Bachelor of Science in Electrical and Electronics Engineering**  
**Eight-Semester Curriculum Plan**

Freshman Year							
First Semester				Second Semester			
Course Code	Course Title	Credits*	Pre requisite	Course Code	Course Title	Credits	Pre requisite
CHM 111	General Chemistry	3-3-0	None	ENL 102	Communication Skills	3-3-0	None
MAT 111	Calculus I	3-3-0	None	MAT 112	Calculus II	3-3-0	MAT 111
PHY 111	Engineering Physics I	3-2-2	None	MAT 113	Linear Algebra and Complex Variables	3-3-0	MAT 111
SAT 103	Computer Application and Technology	3-3-0	None	ENG 131	Introduction To Programming	3-2-2	SAT 103
SAT 102	Fundamentals of Statistics	3-3-0	None	PHY 112	Engineering Physics II	3-2-2	PHY 111
SAT 105	General Science	3-3-0	None	SAH 101	UAE Society	3-3-0	None
	<b>Total Credits</b>	<b>18</b>			<b>Total Credits</b>	<b>18</b>	
Sophomore Year							
ENL 101	English Composition	3-3-0	None	ENG 252	Electronics I	3-2-2	ENG 241
MAT 214	Differential Equations	3-3-0	MAT 112	ENG 232	Engineering Graphic	2-0-2	SAT 103
ENG 241	Circuit Analysis I	3-2-2	PHY 112	MAT 216	Introduction to MATLAB	1-0-2	MAT 113
ENG 251	Digital Logic Design	3-2-2	SAT 103	ENL 104	Research and Learning Skills	3-3-0	None
ENL 103	Technical Writing	3-3-0	None	ENG 242	Circuit Analysis II	3-2-2	ENG 241+ MAT 214
ENG 126	Engineering Thermodynamics	2-2-0	PHY 111	SAH 103	Reasoning and Critical Thinking	3-3-0	None
ENG 127	Workshop Skills	1-0-2	None	SAH 102	Islamic Studies	3-3-0	None
	<b>Total Credits</b>	<b>18</b>			<b>Total Credits</b>	<b>18</b>	
Junior Year							
MAT 318	Mathematical Methods	3-3-0	MAT 214	ENG 254	Measurements and Instrumentation	3-2-2	ENG 252
ENG 343	Signals and Systems	3-3-0	ENG 242+ MAT 216	EEE 396	Internship	3-0-3	>= 80 Credits
ENG 354	Microprocessor Programming and Interfacing	3-2-2	ENG 251	MAT 317	Probability Theory	3-3-0	SAT 102
EEE 344	Electromagnetic Fields and Waves	3-3-0	ENG 242	EEE 362	Automatic Control Engineering	3-2-2	ENG 343
EEE 353	Electronics II	3-2-2	ENG 252 +ENG 242	EEE 324	Engineering Management	3-3-0	ENG 323
ENG 323	Engineering Economics	2-2-0	None	EEE 341	Electromechanical Energy Conversion	3-2-2	EEE 344
	<b>Total Credits</b>	<b>17</b>			<b>Total Credits</b>	<b>18</b>	
Senior Year							
EEE 497	Senior Year Project Design	3-2-2	>= 100 Credits + ENL 103	EEE 498	Graduation Project	3	EEE 497
EEE 455	Digital Systems	3-2-2	EEE 353	EEE 472	Digital Signal Processing	3-2-2	ENG 343
EEE 471	Communication Systems	3-2-2	ENG 343	EEE 442	Power Electronics	3-2-2	EEE 341+ EEE 353
ENG 425	Social and Ethical Issues in Engineering	2-2-0	ENG 323	EEE 4xx	Elective III	3	
EEE 4xx	Elective I	3		EEE 4xx	Elective IV	3	
EEE 4xx	Elective II	3					
	<b>Total Credits</b>	<b>17</b>			<b>Total Credits</b>	<b>15</b>	

\* (Credit-Lecture Hours-Lab Hours)

## Elective Courses for EEE

Course Code	Course Title	Credits	Pre requisite
EEE 461	Fuzzy Logic & Neural Networks	3	EEE 362
EEE 466	Digital Image Processing	3	ENG 343
EEE 468	Introduction to Robotics	3	EEE 362
EEE 443	Electrical Power Engineering	3	EEE 341
EEE 444	Power System Analysis	3	EEE 341
EEE 446	Power Plant Technology	3	EEE 341
EEE 448	Renewable Energy Systems	3	EEE 341
EEE 462	Computer Control	3	EEE 362+ ENG 354
EEE 463	Programmable Logic Controller	3	EEE 362+ ENG 354
EEE 465	Virtual Instrumentation	3	EEE 254+ ENG 354
EEE 473	Digital Communication Systems	3	EEE 471
EEE 474	Electronic Communication Systems Design	3	EEE 471
EEE 475	Data Communication	3	EEE 471
EEE 478	Microwave Engineering	3	EEE 344