



Study Plan

Degree : Bachelor Faculty : Jubail Industrial College Plan Hrs.: 126
 Semester : 451 Department : Electrical Engineering Plan Type : Major
 Edition : 1 Gender : Both
 Major : 2-2-218 Instrumentation & Control Eng.

Council Session: Deanship Session : Faculty Session : Dept Session:
 Council Date: Deanship Date: Faculty Date: Dept Date :

Group Type : Compulsory 1

First							
code	course name	H	G	L	H	requisite	Yrl
CHEM 111	General Chemistry I	4				-	-
ENGL 119	Academic Writing	3				-	-
IAS 111	Arabic Language Foundation	2				-	-
MATH 111	Calculus I	4				-	-
PHYS 111	General Physics I	4				MATH 111 - / C	-
Total							17

Second							
code	course name	H	G	L	H	requisite	Yrl
ENGL 129	Professional Communication	3				ENGL 119 - / P	-
IAS 121	Islamic Culture	2				-	-
IAS 221	Arabic Communication Skills	2				IAS 111 - / P	-
MATH 121	Calculus II	4				MATH 111 - / P	-
MECH 112	Health, Safety & Environment	1				-	-
PE 111	Physical Education I	1				-	-
PHYS 121	General Physics II	4				MATH 121 - / C PHYS 111 - / P	-
Total							17

Third							
code	course name	H	G	L	H	requisite	Yrl
BUS 482	Business Principles and Practices	3				-	-
EEN 212	Electrical Circuits Analysis I	3				PHYS 121 - / P	-
EEN 213	Electrical Circuits Analysis I Lab	1				EEN 212 - / C	-
ENGL 213	Technical Writing	3				ENGL 129 - / P	-
ICE 212	Digital Electronic Circuits	2				-	-
ICE 214	Process Instrumentation I	3				PHYS 121 - / P	-
MATH	Calculus III	3				MATH 121 - / P	-

Group Type : Compulsory 1

Third							
code	course name	H	G	L	H	requisite	Yrl
211							
Total							18

Fourth							
code	course name	H	G	L	H	requisite	Yrl
CHEN 224	Analytical Instrumentation	2				CHEM 111 - / P ICE 214 - / P	-
ICE 224	Programming for Electrical Engineers	3				ICE 212 - / P	-
ICE 225	Process Instrumentation II	2				ICE 214 - / P	-
ICE 226	Industrial Control Applications	2				ICE 214 - / P MATH 121 - / P	-
ICE 227	Analogue Electronic Circuits	2				EEN 212 - / P	-
ICE 235	Process Instrumentation Lab	1				ICE 225 - / C	-
ICE 236	Industrial Control Lab	1				ICE 226 - / C	-
ICE 237	Electronics Lab	1				ICE 212 - / P ICE 227 - / C	-
MATH 222	Differential Equations and Linear Algebra	3				MATH 211 - / P	-
Total							17

Fifth							
code	course name	H	G	L	H	requisite	Yrl
EEN 314	Signals and Systems	3				MATH 211 - / P	-
IAS 212	Professional Ethics in Islam	2				IAS 121 - / P	-
ICE 312	Programmable Logic Controllers	3				ICE 212 - / P	-
ICE 317	Process and Instrumentation Diagram	2				ICE 225 - / P ICE 226 - / P	-
ICE 318	Instrumentation Engineering Design	3				ICE 225 - / P	-
MATH 250	Probability and Statistics	3				MATH 121 - / P	-
MECH 215	Fluid Mechanics and Heat Transfer	2				PHYS 121 - / P	-
Total							18

Sixth							
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P : Pre-requisite

G : GPA level

H : Requisite HRS

C: Co- requisite MC : Mandetory Co--requisi NC: None Co- requisite L : Pre-course Level



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Category : College Requirement

Group Type : Compulsory 1

Sixth							
code	course name	H	G	L	H	requisite	Yrl
BUS 481	Engineering Economics	3				-	-
EEN 317	Introduction to Artificial Intelligence	2				ICE 224 - / P	-
EEN 326	Communications Engineering	3				EEN 314 - / P	-
ICE 322	Control Engineering	3				MATH 222 - / P	-
ICE 326	Capstone Design Project I	1				ICE 227 - / P ICE 318 - / P	-
ICE 328	Industrial Electronics	3				ICE 227 - / P	-
ICE 329	Microcontroller Systems	3				ICE 212 - / P	-
Total						18	

Seventh							
code	course name	H	G	L	H	requisite	Yrl
ICE 412	Digital System Design	3				ICE 212 - / P	-
ICE 413	Process Control Applications	3				ICE 317 - / P	-
ICE 414	Capstone Design Project II	2				ICE 326 - / P	-
MECH 424	Maintenance Planning and Reliability	1				-	-
Total						9	

Eighth							
code	course name	H	G	L	H	requisite	Yrl
ICE 491	Field Training	3				-	-
Total						3	

Category : College Requirement

Group Type : Elective 1 (6)

Group Type : Elective 1 (6)

code	course name	H	G	L	H	requisite	Yrl
BUS 244	Legal Environment in Business	3				-	-
CHEM 432	Chemistry of Materials and Environment	3				CHEM 111 - / P	-
CHEM 433	Green Chemistry and Engineering	3				CHEM 111 - / P	-
CHEM 434	Chemistry of Petrochemical Processes	3				CHEM 111 - / P	-
CHEM 434	Corrosion Engineering	3				CHEM 111 - / P	-
CHEM 436	Water Treatment and Desalination	3				CHEM 111 - / P	-
CHEM 438	Nanomaterials	3				CHEM 111 - / P	-
CIT 233	Enterprise Resource Planning	3				ENGL 119 - / P	-
EEN 443	Digital Control Systems	3				ICE 322 - / P	-
EEN 448	Fundamental of Electrical Machines Control	3				EEN 212 - / P	-
EEN 449	Introduction to Renewable Energy System	3				EEN 212 - / P	-
MATH 432	Engineering Mathematics	3				MATH 222 - / P	-
MATH 433	Operations Research	3				MATH 222 - / P	-
MECH 445	Solar Energy Engineering	3				-	-
MECH 446	Energy Conservation	3				-	-
MECH 447	Maintenance Engineering	3				-	-
MECH 449	Sustainable Energy Engineering	3				-	-
PHYS 131	General Physics 3	3				PHYS 121 - / P	-
PHYS 212	Modern Physics	3				PHYS 121 - / P	-
PHYS 213	Nano Science	3				PHYS 121 - / P	-
Total						60	



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Semester : 451 **Department :** Electrical Engineering **Plan Type :** Major
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Major : 2-2-218 Instrumentation & Control Eng.

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Council Date: **Deanship Date:** **Faculty Date:** **Dept Date :**

Category : College Requirement

Group Type : Elective 2 (3)

code	course name	H	G	L	H	requisite	Yrl
ICE 431	Digital Signal Processing	3				EEN 314 - / P	-
ICE 432	Embedded Systems	3				ICE 329 - / P	-
ICE 436	Machine Learning	3				EEN 317 - / P	-
ICE 437	Advanced PLC	3				ICE 312 - / P	-
ICE 438	Control Valves and Actuators	3				ICE 318 - / P	-
Total							15