

Bachelor of Science in Electrical Engineering – Robotics and Automation Concentration
Study Plan (Fall Start)

Total Credit Hours: 138

First Year (Freshman)

Semester 1			
Code	Title	Cr.	Prerequisite
ARL101(A)	Comm. Skills in Arabic Lang.	3	NIL
ECS100	Intro. to Engr. & Computing	3	NIL
MIT102	Calculus I	3	Math Placement Test or MIT101 (C grade)
STT100	General Statistics	3	NIL
ISL100(A)	Islamic Culture	3	NIL
Total Credit Hours		15	

Semester 2			
Code	Title	Cr.	Prerequisite
FWS205	UAE and GCC Society	3	ENG102 (P) & FWS100 (E) / US5001 as pre-requisite FWS100(E) / US5001 as co-requisite if students enter to ENG200 directly
ENG200	English II	3	
COE101	Introductory Artificial Intelligence	3	
PHY102	Physics & Engr. Applications I	3	MIT102
PHY102L	Physics & Engr. Applications I Lab	1	MIT102, PHY102(co)
MIT200	Calculus II	3	MIT102
Total Credit Hours		16	

Second Year (Sophomore)

Semester 3			
Code	Title	Cr.	Prerequisite
CSC201	Computer Programming I	3	MIT101 or higher
PHY201	Physics & Engr. Applications II	3	PHY102
PHY201L	Physics & Engr. Applications II Lab	1	PHY102, PHY201(co)
ENR210L	Digital Circuits Lab	1	ENR210(co)
ENR210	Digital Circuits	3	ECS100
CHE205	General Chemistry I	3	ENG200/ENG102(co)
CHE201L	Chemistry Lab	1	CHE205(co)
MIT201	Calculus III	3	MIT200
Total Credit Hours		18	

Semester 4			
Code	Title	Cr.	Prerequisite
CEN325	IoT: Foundation & Design	3	CSC201, ENR210
CEN333	Cross-platform Mobile App. Develop.	3	CSC201
CEN201	Electric Circuits I	3	ECS100 or PHY201, ENR210L
COE202	Engineering Ethics, Economy, and Law	3	ENG200, MIT102
MIT205	Differential Equations	3	MIT200, MIT204(co)
MIT204	Introduction to Linear Algebra	3	MIT200
Total Credit Hours		18	

Third Year (Junior)

Semester 5			
Code	Title	Cr.	Prerequisite
CEN320	Signals and Systems	3	MIT205, CEN201
ENR220	Electric Circuits II	3	CEN201
CEN425	IoT Applications and Edge AI	3	CEN325
FWS310	Fund. of Innovation & Entrepreneurship	3	ENG200 +min 60 credits
ENR338	Electromagnetic Fields and Waves	3	MIT201(co), MIT205
CEN304	Electronic Devices and Circuits	3	CEN201
Total Credit Hours		18	

Semester 6			
Code	Title	Cr.	Prerequisite
EEN345	Power Systems	3	EEN220
CEN401L	Embedded and IoT Lab	1	CEN425(co), EEN210L
EEN337	Analog and Digital Communication	3	CEN320
CEN324	Digital and Analog Electronics	3	CEN304
EEN365	Control Systems	3	CEN320, MIT204
CEN330	Probability and Stochastics Processes	3	CEN320, STT100
Total Credit Hours		16	

Summer Semester			
Code	Title	Cr.	Prerequisite
EEN399I	Internship in Electrical Engineering I	2	90 Credit Hours
Total Credit Hours		2	

Fourth Year (Senior)

Semester 7			
Code	Title	Cr.	Prerequisite
EEN448	Electrical Installation and Design	3	EEN345
CSC305	Data Communications and Networks	3	Junior Level
EEN366	Introduction to Robotics	3	EEN365
CEN464L	Signal Processing Lab	1	CEN464(co)
EEN310	Instrumentation and Measurement	3	CEN304
CEN464	Digital Signal Processing	3	CEN320
EEN451	Electrical Engineering Design Project I	1	Senior Level
Total Credit Hours		17	

Winter Semester			
Code	Title	Cr.	Prerequisite
EEN399II	Internship in Electrical Engineering II	1	EEN399I
Total Credit Hours		1	

Semester 8			
Code	Title	Cr.	Prerequisite
EEN340	Energy Conversion	3	EEN220, EEN338
CEN354	Computer Vision and Image Processing	3	CEN464, CEN464L
EEN449	Renewable Energy	3	EEN345
EEN452	Electrical Engineering Design Project II	2	EEN451
EEN339	Communication Systems	3	CEN330, EEN337
EEN413	Sensors and Transducers	3	EEN310
Total Credit Hours		17	