

**Bachelor of Science in Biomedical Engineering  
Study Plan (Fall Start)**

**First Year (Freshman)**

**Total Credit Hours: 134**

Semester 1

Code	Title	Cr.	Prerequisite
ARL 100	Communication Skills in Arabic I	3	nil
ECS 200	Introduction to Engineering and Computing	3	nil
MTT 102	Calculus I	3	C grade in MTT 101 or MPT
STT 100	General Statistics	3	nil
ISL 100	Islamic Culture	3	nil
UNS 102	University Study Skills	1	nil

**Total Credit Hours 18**

Semester 2

Code	Title	Cr.	Prerequisite
FWS205	UAE and GCC Society	3	ENG 102 + UNS 102 (co-req)
ENG 200	English II	3	EPT / ENG 102 + UNS 102 (co-req)
PHY 102	Physics and Engineering Applications I	3	MTT 102
PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102+PHY 102 (co-req)
MTT 200	Calculus II	3	MTT 102
CSC201	Computer Programming I	3	MTT101 or Higher

**Total Credit Hours 16**

**Second Year (Sophomore)**

Semester 3

Code	Title	Cr.	Prerequisite
BIO 205	General Biology	3	(Co) ENG 102/ ENG 200
BIO 205 L	General Biology Lab	1	BIO 205 (Co)
EEN210	Digital Circuits	3	ECS 200
OE I	Open Elective	3	
CHE 205	General Chemistry	3	(Co)ENG 102/ENG 200+UNS 102
CHE 205 L	General Chemistry Lab	1	CHE 205 (Co)

**Total Credit Hours 14**

Semester 4

Code	Title	Cr.	Prerequisite
BME 301	Applied Molecular & Cellular Biology for Engineers	3	BIO 205
BME 380	Human Biology I	3	CHE 205, BIO 205
CEN 201	Electric Circuits	3	ECS 200
GEN 201	Engineering Economy	2	ENG 200 + MTT102
MTT 205	Differential Equations	3	MTT 200
MTT 204	Introduction to Linear Algebra	3	MTT 200

**Total Credit Hours 17**

**Third Year (Junior)**

Semester 5

Code	Title	Cr.	Prerequisite
BME 320	Biosystems and Signals	3	MTT 205, CEN201
BME 381	Human Biology II	3	BME 380
BME 401	Introduction to Biotechnology	3	BME 301
BME 325	IoT for Bioengineers: Found. and Design	3	CSC 201
FWS 305	Technical Communications for Workplace	3	ENG 200 + Comp. of 45 cr. hrs.
CEN 304	Electronic Circuits and Devices	3	CEN 201

**Total Credit Hours 18**

Summer Semester

Code	Title	Cr.	Prerequisite
BME 399	Internship	3	90 Credit Hours

Semester 6

Code	Title	Cr.	Prerequisite
BME 330	Physiological Modeling	3	BME 380; BME 320
EEN 324	Analog and Digital Electronics	3	CEN304
BME 310	Biomedical Instrumentation	3	BME 324 (CO), BME 380
CEN 330	Probability and Stochastic Processes	3	BME 320, STT100
FWS 310	Fundamentals of Innovation and Entrepreneurship	3	ENG200+comp. of 60 cr. hrs.
BME 312	Medical Device Design	3	BME 380

**Total Credit Hours 18**

**Fourth Year (Senior)**

Semester 7

Code	Title	Cr.	Prerequisite
BME 425	IoT for Bioengineers: Applications & Security	3	BME325
BME 413	Biomedical Sensors and Transducers	3	BME310
BME 441	Medical Imaging Systems	3	BME 320
ME 1	Major Elective	3	-
ME 2	Major Elective II	3	-
BME 450A	Biomedical Engineering Design Project I	1	Senior level
BME 310L	Biomedical Instrumentation Lab	1	BME310

**Total Credit Hours 17**

Semester 8

Code	Title	Cr.	Prerequisite
EEN 365	Control Systems	3	CEN320 + MTT204
CEN 454	Computer Vision and Machine Learning	3	BME 320, CEN330
BME 450B	Biomedical Engineering Design Project II	2	BME450A
GEN 400	Engineering Ethics	1	Senior level
BME 464	Digital Bio-Signal Processing	3	BME320
ME 3	Major Elective III	3	

**Total Credit Hours 15**