

**Bachelor of Science in Biomedical Engineering**

**Study Plan (Fall Start)**

**Total Credit Hours: 136**

**First Year (Freshman)**

Semester 1

Code	Title	Cr.	Prerequisite
ARL 100(A)	Communication Skills in Arabic I	3	nil
ECS 200	Introduction to Engineering and Computing	3	nil
MTT 102	Calculus I	3	MPT or MTT 101 (C grade)
STT 100	General Statistics	3	nil
ISL 100(A)	Islamic Culture	3	nil
FWS 100(E)	Academic Skills for Success	3	nil

**Total Credit Hours 18**

Semester 2

Code	Title	Cr.	Prerequisite
BIO 205	General Biology	3	(Co) ENG 102/ ENG 200
BIO 205L	General Biology Lab	1	BIO 205 (Co)
ENG 200	English II	3	EPT/or Passing grade in ENG102+FWS100 (FWS100(E) as co-req if placed in ENG200
PHY 102	Physics and Engineering Applications I	3	MTT 102
PHY 102L	Physics and Engineering Applications I Lab	1	MTT 102+PHY 102 (co-requisite)
MTT 200	Calculus II	3	MTT 102
GEN101	Introduction to Artificial Intelligence	3	STT100

**Total Credit Hours 17**

**Second Year (Sophomore)**

Semester 3

Code	Title	Cr.	Prerequisite
FWS205	UAE and GCC Society	3	ENG102+ FWS100(E ) or FWS100(E) as co-req if placed in ENG200 course directly
EEN210	Digital Circuits	3	ECS 200
CSC201	Computer Programming I	3	MTT101 or Higher
CHE 205	General Chemistry	3	(Co)ENG102/ENG200
CHE 201L	General Chemistry Lab	1	CHE 205 (Co-requisite)

**Total Credit Hours 13**

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	BME301
BME 325	IoT for Bioengineers: Found. and Design	3	CSC 201 + EEN210
FWS 305	Technical Communications for Workplace	3	ENG 200 + Completion of min 45CH
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; BME320
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+completion of min 60CH
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 I	3	-
OE	Open Elective	3	-
BME 491	Biomedical Eng Capstone 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	MTT204, BME320
CEN 454	Computer Vision and Machine Learning	3	BME 320, CEN330
BME 492	Biomedical Engineering Capstone Design Project II	2	BME491
GEN 400	Engineering Ethics	1	Senior level
BME 464	Digital Bio-Signal Processing	3	BME320
ME 2	Major Elective II	3	

**Total Credit Hours 15**