

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

Total Credit Hours: 135

First Year (Freshman)

Semester 1

Code	Title	Cr.	Prerequisite
ARL 100	Communication Skills in Arabic I	3	nil
ENG 200	English II	3	EPT/ENG102+ FWS100 (Co-req)
STT 100	General Statistics	3	nil
FWS 100	Academic Skills for Success	3	nil
MTT 102	Calculus I	3	C grade in MTT 101 or MPT
MEC 130	Introduction to Mechanical & Industrial Engr	2	Nil

Total Credit Hours 17

Semester 2

Code	Title	Cr.	Prerequisite
FWS 211	Fundamentals of Emotional Intelligence	3	ENG 102 + FWS 100
OE 1	Open Elective I	3	
MEC 330	Computer Aided Drawing	2	MEC 130
PHY 102	Physics and Engineering Applications I	3	MTT 102
PHY 102 L	Physics and Engineering Applications I Lab	1	MTT 102+PHY 102 (co-req)
MTT 200	Calculus II	3	MTT 102
ISL 100	Islamic Culture	3	nil

Total Credit Hours 18

Second Year (Sophomore)

Semester 3

Code	Title	Cr.	Prerequisite
FWS 205	UAE and GCC Society	3	ENG102+FWS100 (Co-req)
MTT 201	Calculus III	3	MTT 200
CSC 201	Structured Programming	3	MTT 102
PHY 201	Physics and Engineering Applications II	3	PHY 102
PHY 201 L	Physics and Engineering Applications II Lab	1	PHY102+PHY201(co-req)
CHE 205	Chemistry	3	ENG 200
CHE 201 L	Chemistry Lab	1	ENG200+CHE205(co-req)

Total Credit Hours 17

Semester 4

Code	Title	Cr.	Prerequisite
CIV 201	Statics	3	MTT 102, PHY102
MEC 300	Materials Science	3	CHE 205
MEC 320	Thermodynamics I	3	PHY 102
MEC 390	Electromechanical Devices	3	PHY 201
MTT 204	Introduction to Linear Algebra	3	MTT 200
MTT 205	Differential Equations	3	MTT 200 + MTT 204 (co-requisite)

Total Credit Hours 18

Third Year (Junior)

Semester 5

Code	Title	Cr.	Prerequisite
MEC 302	Mechanics of Materials	3	CIV 201, MEC 300
MEC 350	Fluid Mechanics	3	CIV 201, MTT205
MEC 351	Fluid Mechanics Lab	1	MEC 350 (co-req)
MEC 321	Thermodynamics II	3	MEC 320
MEC 310	Dynamics	3	CIV 201, MTT204
MEC 340	Machine Design I	3	MEC 330, MEC 30

Total Credit Hours 16

Summer Semester

Code	Title	Cr.	Prerequisite
MEC 399i	Internship	3	90 Credit Hours

Semester 6

Code	Title	Cr.	Prerequisite
MEC 430	Machine Design II	3	MEC 302, MEC 340
MEC 432	Design and Manufacturing Lab	1	MEC 301 (co-req)
MEC 411	Kinematic and Dynamics of Machinery	3	MEC 310
MEC 410	Control Systems	3	MEC 310, MEC 390
MEC 412	Dynamics and Control Systems Lab	1	MEC 410 (co-req)
MEC 301	Manufacturing Processes	3	MEC 300

Total Credit Hours 14

Fourth Year (Senior)

Semester 7

Code	Title	Cr.	Prerequisite
MEC 480	Mechanical Vibration	3	MEC 410
MEC 420	Heat Transfer	3	MEC 320, MEC 350
MEC 421	Thermal Engineering Lab	1	MEC 420 (co-req)
FWS 310	Fundamentals of Innovation & Entrepreneurship	3	ENG200 + Completion of 60 chr
MEC 465	Numerical & FE Simulation Eng Problems	3	MEC 430, MEC420 co-req
ME 1	Major Elective I	3	
MEC 498	Capstone Design Project I	1	MEC 465 (co-req)

Total Credit Hours 17

Semester 8

Code	Title	Cr.	Prerequisite
MEC 499	Capstone Design Project II	3	MEC 498, Senior level (120 credits)
CIV 402	Engineering Ethics	3	Senior level
ME 2	Major Elective II	3	
FWS 305	Technical Communications for Workplace	3	ENG200 + Completion of 45 chrs
GEN 200	Engineering Economy	3	ENG 200 + MTT 102

Total Credits Hours 15