

**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	*EPSS / ENG100(C grade)+ (Co) UNS102
ISL 100	Islamic Culture	3	nil
STT 100	General Statistics	3	nil
UNS 102	University Study Skills	1	nil
MTT 102	Calculus I	3	C grade in MTT 101 or MPT

**Total Credit Hours 16**

Semester 2

Code	Title	Cr.	Prerequisite
PSY 201	General Psychology	3	ENG 100 + (Co) UNS 102
GEN 200	Engineering Economy	3	ENG 200 + MTT 102
MEC 330	Computer Aided Drawing	2	MEC 200 (co-requisite)
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
MEC 200	Introduction to Mechanical Engineering	3	PHY 102(co-req)+MEC 330(co-req)

**Total Credit Hours 18**

**Second Year (Sophomore)**

Semester 3

Code	Title	Cr.	Prerequisite
SOC 201	UAE and GCC Society	3	ENG 100 + (Co) UNS 102
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	Engineering Mechanics-Statics	3	MTT 102, PHY 102
ENG 305	Technical Communications for Eng. & Science	3	ENG 200
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 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 300	Materials Science	3	CHE 205
MEC 310	Dynamics	3	CIV 201, MTT204

**Total Credit Hours 16**

Semester 6

Code	Title	Cr.	Prerequisite
MEC 430	Machine Design	3	MEC 302, MEC 330
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
CRT 301	Critical Thinking	2	ENG 200 + UNS 102

**Total Credit Hours 16**

Summer Semester

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

**Fourth Year (Senior)**

Semester 7

Code	Title	Cr.	Prerequisite
MEC 480	Mechanical Vibration	3	MEC 310, MEC 410
MEC 420	Heat Transfer	3	MEC 320, MEC 350
MEC 421	Thermal Engineering Lab	1	MEC 420 (co-req)
INE 300	Fundamentals of Innovation & Entrepreneurship	3	ENG200 + Completion of 60 chrs
MEC 465	Numerical & FE Simulation Eng Problems	3	MEC302, MTT204, MEC420 co-req
ME 1	Major Elective I	3	

**Total Credit Hours 16**

Semester 8

Code	Title	Cr.	Prerequisite
MEC 499	Design Project (Capstone)	3	Senior level
CIV 402	Engineering Ethics	3	Senior level
ME 2	Major Elective II	3	
OE 1	Open Elective I	3	
OE 2	Open Elective II	3	

**Total Credit Hours 15**

**\*Note: English Proficiency Specified Score: Score of 1250+ & B2 (CEFR) in Writing Component for EmSat or/ 5.5 overall average & 5.5 specific score in Writing Component for IELTS, equivalent in other English Proficiency Test**