

**Bachelor of Science in Industrial Engineering
Study Plan (Fall Start)
First Year (Freshman)**

Total Credit Hours: 138

Semester 1

Code	Title	Cr.	Prerequisite
ARL 101(A)	Communication Skills in Arabic I	3	nil
ENG 200	English II	3	EPT or IELTS average score of 6 or EMSAT average score of 1400 or passing grade in ENG102 + FWS100(E) Co-req (FWS100(E) if placed in ENG200)
STT 100	General Statistics	3	nil
FWS 100(E)	Academic Skills for Success	3	nil
MTT 102	Calculus I	3	MPT or MTT 101 (C grade)
MEC 130	Introduction to Mech & Industrial Engineering	2	nil

Total Credit Hours 17

Semester 3

Code	Title	Cr.	Prerequisite
MTT 201	Calculus III	3	MTT 200
CSC 201	Structured Programming	3	MTT 101 or Higher
PHY 201	Physics and Engineering Applications II	3	PHY 102
PHY 201 L	Physics and Engineering Applications I Lab	1	PHY102+PHY201(co-requisite)
MIS 200	Intro. to Management Information Systems	3	ENG 200 + ITD100 or equivalent
CHE 205	General Chemistry I	3	(Co-req) ENG102 / ENG 200
CHE 201 L	Chemistry Lab	1	(Co-req) CHE205

Total Credit Hours 17

Semester 5

Code	Title	Cr.	Prerequisite
IEN 310	Ergonomics & Work Measurement	3	STT 100
IEN 311	Ergonomics & Work Measurement Lab	1	IEN 310(co-req)
MEC 310	Dynamics	3	CIV 201, MTT204
FWS305	Technical Communications for Workplace	3	ENG200 + Completion of min 45CH
MEC 340	Machine Design I	3	MEC 330,MEC 300
MEC 350	Fluid Mechanics	3	CIV 201, MTT205

Total Credit Hours 16

Summer Semester

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

Semester 7

Code	Title	Cr.	Prerequisite
IEN 402	3D Printing and Additive Manufacturing	3	MEC 301
IEN 360	Production Planning and Inventory Control	3	IEN 330
IEN 400	Modeling and Simulation	2	IEN 330 + MIS 200
IEN 401	Modeling and Simulation Lab	1	IEN 400(co-req)
IEN 440	Operations Research II	3	IEN 330
ME 1	Major Elective I	3	
IEN 498	Capstone Design Project I	1	Senior Level + MEC 340

Total Credit Hours 16

Semester 2

Code	Title	Cr.	Prerequisite
GEN 101	Introductory Artificial Intelligence	3	STT100
FWS 205	UAE and GCC Society	3	ENG102+ FWS100(E) or FWS100(E) as co-req if students enter to ENG200 course directly
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
GEN 201	Engineering Economy	2	ENG 200 + MTT 102

Total Credit Hours 17

Semester 4

Code	Title	Cr.	Prerequisite
CIV 201	Statics	3	PHY102
MEC 300	Materials Science	3	CHE 205
MEC 320	Thermodynamics I	3	PHY 102
IEN 220	Probability and Statistics	3	STT 100
MTT 204	Introduction to Linear Algebra	3	MTT 200
MTT 205	Differential Equations	3	MTT 200 + MTT 204 (co-req)

Total Credit Hours 18

Semester 6

Code	Title	Cr.	Prerequisite
IEN 320	Engineering Data Analysis	2	IEN 220 + MTT 204
MEC 301	Manufacturing Processes	3	MEC 300
IEN 330	Operations Research I	3	IEN 220+ MTT 204
IEN 340	Quality Engineering	3	IEN 220
MEC 432	Design and Manufacturing Lab	1	MEC 301 (co-req)
IEN 350	Facilities Planning and Asset Management	3	MEC 330
IEN 420	Environmental and Safety Engineering	3	IEN 310

Total Credit Hours 18

Fourth Year (Senior)

Code	Title	Cr.	Prerequisite
IEN 499	Capstone Design Project II	3	IEN 498
GEN 400	Engineering Ethics	1	Senior level
BE 1	Business Elective I	3	
BE 2	Business Elective II	3	
FWS 310	Fundamentals of Innovation & Entrepreneurship	3	ENG200 + Completion of min 60CH
ISL 100(A)	Islamic Culture	3	nil

Total Credit Hours 16