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

Total Credit Hours: 138

	First Year (Freshman)						3. 150	
Semester 1				ar (Freshman)	(Freshman) Semester 2			
Code	Title	Cr.	Prerequisite	Code	Title	Cr.	Prerequisite	
ARL 101(A)	Communication Skills in Arabic I	3	nil	GEN 101	Introductory Artificial Intelligence	3	STT100	
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)	FWS 205	UAE and GCC Society	3	ENG102+ FWS100(E) or FWS100(E) as co-req if students enter to ENG200 course directly	
STT 100	General Statistics	3	nil	MEC 330	Computer Aided Drawing	2	MEC 130	
FWS 100(E)	Academic Skills for Success	3	nil	PHY 102	Physics and Engineering Applications I	3	MTT 102	
MTT 102	Calculus I	3	MPT or MTT 101 (C grade)	PHY 102 L	Physics and Engineering Applications I Lab	1	MTT 102+PHY 102 (co-req)	
MEC 130	Introduction to Mech & Industrial Engineering	2	nil	MTT 200	Calculus II	3	MTT 102	
				GEN 201	Engineering Economy	2	ENG 200 + MTT 102	
Total Credit Hours 17			Cocord Very		Total Credit Hours	5 17		
Semester 3 Second Yea Code Title Cr. Prerequisite				r (Sophomore) Code				
MTT 201	Calculus III	3	MTT 200	CIV 201	Statics	3	Prerequisite PHY102	
CSC 201	Structured Programming	3	MTT 101 or Higher	MEC 300	Materials Science	3	CHE 205	
PHY 201	Physics and Engineering Applications II	3	PHY 102	MEC 300	Thermodynamics I	3	PHY 102	
PH 1 201 PHY 201 L	Physics and Engineering Applications I Physics and Engineering Applications I Lab	1	PHY102 PHY102+PHY201(co-requisite)	IEN 220	Probability and Statistics	3	STT 100	
MIS 200	Intro. to Management Information Systems	3	ENG 200 + ITD100 or equivalent	MTT 204	Introduction to Linear Algebra	3	MTT 200	
CHE 205	General Chemistry I	3	(Co-req) ENG102 / ENG 200	MTT 204	Differential Equations	3	MTT 200 + MTT 204 (co-req)	
CHE 205 CHE 201 L	Chemistry Lab	1	(Co-req) CHE205	WIII 200	Differential Equations	5	M11 200 + M11 20 + (co req)	
CIIL 201 L	Total Credit Hours	17	(0-14) 011205		Total Credit Hours	; 18		
Semester 5 Third Year (Semester 6			
			11		Semester o			
Code	Title	Cr.	Prerequisite	Code	Title	Cr.	Prerequisite	
Code IEN 310		Cr. 3		· /		Cr. 2	Prerequisite IEN 220 + MTT 204	
	Title		Prerequisite	Code	Title	_	IEN 220 + MTT 204 MEC 300	
IEN 310	Title Ergonomics & Work Measurement		Prerequisite STT 100	Code IEN 320	Title Engineering Data Analysis	2	IEN 220 + MTT 204	
IEN 310 IEN 311	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab	3 1	Prerequisite STT 100 IEN 310(co-req)	Code IEN 320 MEC 301	Title Engineering Data Analysis Manufacturing Processes	23	IEN 220 + MTT 204 MEC 300	
IEN 310 IEN 311 MEC 310	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics	3 1 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204	Code IEN 320 MEC 301 IEN 330	Title Engineering Data Analysis Manufacturing Processes Operations Research I	2 3 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204	
IEN 310 IEN 311 MEC 310 FWS305	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace	3 1 3 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH	Code IEN 320 MEC 301 IEN 330 IEN 340	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering	2 3 3 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics	3 1 3 3 3 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering	2 3 3 1 3 3 3 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req)	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics	3 1 3 3 3 3 16	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management	2 3 3 3 1 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester	3 1 3 3 3 3 16	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering	2 3 3 1 3 3 3 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title	3 1 3 3 3 3 16 Cr.	PrerequisiteSTT 100IEN 310(co-req)CIV 201, MTT204ENG200 + Completion of min 45CHMEC 330,MEC 300CIV 201, MTT205	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering	2 3 3 1 3 3 3 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship	3 1 3 3 3 3 16	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350 IEN 420	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours	2 3 3 1 3 3 3 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7	3 1 3 3 3 3 16 Cr. 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 Prerequisite 90 Credit Hours Fourth Y	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350 IEN 420	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8	2 3 3 1 3 3 18	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title	3 1 3 3 3 3 3 16 Cr. 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 Prerequisite 90 Credit Hours Fourth Ye Prerequisite	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350 IEN 420	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8 Title	2 3 3 1 3 3 18 Cr.	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350 Code IEN 399i	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title 3D Printing and Additive Manufacturing	3 1 3 3 3 3 3 3 16 Cr. 3 Cr. 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 Prerequisite 90 Credit Hours Fourth Ye Prerequisite MEC 301	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350 IEN 420 Year (Senior) Code IEN 499	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8 Title Capstone Design Project II	2 3 3 1 3 3 18	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350 Code IEN 399i Code IEN 402 IEN 360	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title 3D Printing and Additive Manufacturing Production Planning and Inventory Control	3 1 3 3 3 3 3 3 16 Cr. 3 3 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 Prerequisite 90 Credit Hours Fourth Ye MEC 301 IEN 330	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350 IEN 420	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8 Title Capstone Design Project II Engineering Ethics	2 3 3 1 3 3 1 3 3 18 Cr. 3 1	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350 MEC 350 Code IEN 399i Code IEN 402 IEN 360 IEN 400	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title 3D Printing and Additive Manufacturing Production Planning and Inventory Control Modeling and Simulation	3 1 3 3 3 3 3 3 16 Cr. 3 Cr. 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 OCIV 201, MTT205 Prerequisite 90 Credit Hours Fourth Ye Prerequisite MEC 301 IEN 330 IEN 330 + MIS 200	Code IEN 320 MEC 301 IEN 330 IEN 340 MEC 432 IEN 350 IEN 420	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Semester 8 Total Credit Hours Semester 8 Engineering Ethics Business Elective I	2 3 3 1 3 3 3 3 1 8 Cr. 3 1 3	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350 MEC 350 Code IEN 399i Code IEN 402 IEN 400 IEN 401	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title 3D Printing and Additive Manufacturing Production Planning and Inventory Control Modeling and Simulation Modeling and Simulation Lab	3 1 3 3 3 3 3 16 Cr. 3 Cr. 3 2 1	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 Orrequisite 90 Credit Hours Fourth Ye Prerequisite MEC 301 IEN 330 IEN 330 IEN 330 + MIS 200 IEN 400(co-req)	Code IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 432 IEN 350 IEN 420 Mec 432 IEN 420 Gen (Senior) Code IEN 499 GEN 400 BE 1 BE 2	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8 Title Capstone Design Project II Engineering Ethics Business Elective I Business Elective II	2 3 3 1 3 3 1 3 1 1 3 1 1 1 1 1 1 1 1 1 1	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350 MEC 350 Code IEN 399i Code IEN 402 IEN 400 IEN 401 IEN 440	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title 3D Printing and Additive Manufacturing Production Planning and Inventory Control Modeling and Simulation Modeling and Simulation Lab Operations Research II	3 1 3 3 3 3 3 16 Cr. 3 3 2 1 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 OCIV 201, MTT205 Prerequisite 90 Credit Hours Fourth Ye Prerequisite MEC 301 IEN 330 IEN 330 + MIS 200	Code IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 432 IEN 350 IEN 420 Genior) Code IEN 499 GEN 400 BE 1 BE 2 FWS 310	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8 Capstone Design Project II Engineering Ethics Business Elective I Business Elective II Fundamentals of Innovation & Entrepreneurship	2 3 3 1 3 3 1 3 1 1 3 1 1 1 1 1 1 1 1 1 1	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310 Prerequisite IEN 498 Senior level ENG200 + Completion of min 60CH	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350 MEC 350 Code IEN 399i Code IEN 402 IEN 400 IEN 401 IEN 440 ME 1	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title 3D Printing and Additive Manufacturing Production Planning and Inventory Control Modeling and Simulation Modeling and Simulation Lab Operations Research II Major Elective I	3 1 3 3 3 3 3 16 Cr. 3 Cr. 3 2 1	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 Prerequisite 90 Credit Hours Fourth Ye Prerequisite MEC 301 IEN 330 IEN 330 + MIS 200 IEN 330 IEN 330	Code IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 432 IEN 350 IEN 420 Mec 432 IEN 420 Gen (Senior) Code IEN 499 GEN 400 BE 1 BE 2	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8 Title Capstone Design Project II Engineering Ethics Business Elective I Business Elective II	2 3 3 1 3 3 1 3 1 1 3 1 1 1 1 1 1 1 1 1 1	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	
IEN 310 IEN 311 MEC 310 FWS305 MEC 340 MEC 350 MEC 350 Code IEN 399i Code IEN 402 IEN 400 IEN 401 IEN 440	Title Ergonomics & Work Measurement Ergonomics & Work Measurement Lab Dynamics Technical Communications for Workplace Machine Design I Fluid Mechanics Total Credit Hours Summer Semester Title Internship Semester 7 Title 3D Printing and Additive Manufacturing Production Planning and Inventory Control Modeling and Simulation Modeling and Simulation Lab Operations Research II	3 1 3 3 3 3 3 16 Cr. 3 3 2 1 3	Prerequisite STT 100 IEN 310(co-req) CIV 201, MTT204 ENG200 + Completion of min 45CH MEC 330,MEC 300 CIV 201, MTT205 Orrequisite 90 Credit Hours Fourth Ye Prerequisite MEC 301 IEN 330 IEN 330 IEN 330 + MIS 200 IEN 400(co-req)	Code IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 301 IEN 320 MEC 432 IEN 350 IEN 420 Genior) Code IEN 499 GEN 400 BE 1 BE 2 FWS 310	Title Engineering Data Analysis Manufacturing Processes Operations Research I Quality Engineering Design and Manufacturing Lab Facilities Planning and Asset Management Environmental and Safety Engineering Total Credit Hours Semester 8 Capstone Design Project II Engineering Ethics Business Elective I Business Elective II Fundamentals of Innovation & Entrepreneurship	2 3 3 1 3 3 1 3 1 1 3 1 1 1 1 1 1 1 1 1 1	IEN 220 + MTT 204 MEC 300 IEN 220+ MTT 204 IEN 220 MEC 301 (co-req) MEC 330 IEN 310	