SCHOOL OF ENGINEERING			
Degree: BACHELOR OF SCIENCE **Credits: 129**		**CURRICULUM** **Effective: August 2017**	
Program: INDUSTRIAL AND MANAGEMENT ENGINEERING			
Description: Industrial Engineering encompasses activities in quality, production, operations research, simulation, facilities layout, work system design, work measurement, safety and ergonomics, economic and cost analysis. An industrial engineer acquires the capacity to design, develop, implement, and improve integrated systems that include people, materials, information, equipment, technology and energy. It applies knowledge from mathematics, science, computers, accounting, algorithms and graphics to solve problems involving efficiency, effectiveness or productivity. In terms of Management, a graduate of this program develops an understanding of the engineering relationships between the management tasks of planning, organizing, leading, controlling, and the human element in production and service organizations. Essential professional skills, such as communication, teamwork and interpersonal relations are practiced throughout this program.			
Course Code	**Course Title**	**Credits**	**Requisites**
General Education Courses			
HUMA 111	Universal Culture and Civilization I	3	
SPAN 152	Fundamentals of reading and writing	3	Placement Exam
SPAN 250	Writing Techniques	3	SPAN 152
ENGL 152	Communicative English II	3	Placement Exam
ENGL 153	Advanced Communicative English	3	ENGL 152
ENGL 231	Research and Writing	3	ENGL 153
SOSC 111	Individual, Community, Govt. and Social Responsibility I	3	
SOSC 112	Individual, Community, Govt. and Social Responsibility II	3	SOSC 111
	Free Elective	3	Depends on elective
MATH 152	Pre-Calculus II	4	Placement exam or MATH 151
MATH 152L	Pre-Calculus II Lab	0	Co-req. MATH 152
CHEM 203	General Chemistry I	4	MATH 151
CHEM 203L	General Chemistry I Lab	0	Co-req. CHEM 203
FSEN 105	Freshmen Seminar for Engineering	3	
MATH 221	Calculus I	4	MATH 152
MATH 221L	Calculus I Lab	0	Co-req. MATH 221
MATH 222	Calculus II	4	MATH 221
MATH 222L	Calculus II Lab	0	Co-req. MATH 222
MATH 350	Linear Algebra	3	MATH 221
MATH 395	Differential Equations	3	MATH 222
PHSC 215	General Physics for Engineering I	4	MATH 221
PHSC 215L	General Physics for Engineering I Lab	0	Co-req. PHSC 215
PHSC 216	General Physics for Engineering II	4	PHSC 215
PHSC 216L	General Physics for Engineering II Lab	0	Co-req. PHSC 216
Core Courses			
ENGI 122	Introd. to Computer Programming	3	MATH 152
ENGI 277	General Statics and Dynamics	3	PHSC 215
ENGI 210	Engineering Economy	3	[MATH 221 Co-Req.]
ELEN 301	Electrical Networks I	3	PHSC 216
Concentration Courses			
IMEN 205	Principles of Engineering Management	3	MATH 152
IMEN 390	Probability for Engineers	3	MATH 221
IMEN 341	Accounting and Finance for Engineers	3	[MATH 221 Co-Req]
IMEN 395	Inferential Statistics for Engineers	3	IMEN 390, or, for Electric and Computer Engineering students, ELEN 360, or for Mechanical and Civil Eng. ENGI 280.

Course Code	Course Title	Credits	Requisites
IMEN 402	Work Measurement	3	IMEN 390 or, for Electrical and Computer Engineering students, ELEN 360, or for Mechanical and Civil Eng. ENGI 280
IMEN 403	Work Systems Design	3	ENGI 277, IMEN 402
IMEN 405	Statistical Quality Control	3	IMEN 390, [IMEN 395 Co-Req]
IMEN 406	Operations Research	3	MATH 350
IMEN 407	Production Planning and Control	3	ENGI 210, [IMEN 406 Co-Req], [IMEN 395 Co-Req]
IMEN 408	Facilities Planning	3	IMEN 402, IMEN 406
IMEN 409	Design Project	3	Last semester status and permission from Department Director
IMEN 411	Systems Analysis and Design	3	ENGI 122, IMEN 402
IMEN 413	Probabilistic Models in Operations Research	3	MATH 395, IMEN 390, MATH 350
IMEN 414	Systems Simulation	3	ENGI 122, IMEN 395, IMEN 402
IMEN 421	Engineering Project Management	3	ENGI 210; IMEN 390, or, for Electrical and Computer Engineering students, ELEN 360 or for Mechanical and Civil Eng. ENGI 280
IMEN 425	Enterprise Continuous Improvement	3	IMEN 402
ACCO 303	Cost Accounting	3	IMEN 341
	Industrial and Management Engineering Elective	3	Depends on the elective
	Industrial and Management Engineering Elective	3	Depends on the elective
Elective Courses (Select a minimum of 6 credits from below)			
IMEN 404	Industrial Safety & Health Management	3	CHEM 203, IMEN 205, IMEN 390
IMEN 416	Design of Industrial Experiments	3	IMEN 395
IMEN 495	Special Topics	1	Chairperson's Permission
IMEN 497	Special Topics	3	Chairperson's Permission
IMEN 498	Undergraduate Research I	3	Chairperson's Permission
IMEN 499	Undergraduate Research II	3	IMEN 498 & Chairperson's Permission
MATH 223	Calculus III	4	MATH 222
	Engineering Management Option – Electives (select 6 credits)		
IMEN 510	Engineering Management	3	Last year status*
IMEN 551 or TCOM 513	Advanced Engineering Project Management, or Information Technology Project Management	3	Last year status*
IMEN 610	Statistics for Decision Modeling	3	Last year status*
IMEN 620	Advanced Enterprise Continuous Improvement	3	Last year status*
IMEN 630	Supply Chain Management for Engineers	3	Last year status*
IMEN 635	Logistics Methods and Strategies	3	Last year status*
IMEN 640	Design and Operation of Logistic Networks	3	IMEN 635

Minimum grade required: All courses of the program must be approved with a minimum grade of C.

*** At most 24 credits to graduation**

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SCHOOL OF ENGINEERING			
Degree: BACHELOR OF SCIENCE **Credits: 129**		**PLAN OF STUDY** **Effective: August 2017**	
Program: INDUSTRIAL AND MANAGEMENT ENGINEERING			
Course Code	**Course Title**	**Credits**	**Requisites**
FIRST YEAR - FIRST SEMESTER			
FSEN 105	Introduction to Engineering	3	
MATH 152	Pre-Calculus II	4	Placement Exam or Math 151
MATH 152L	Pre-Calculus II Lab	0	Co-req. MATH 152
HUMA 111	Universal Culture and Civilization I	3	
SPAN 152	Fundamentals of reading and writing	3	Placement Exam
ENGL 152	Communicative English II	3	Placement Exam
		16	
FIRST YEAR - SECOND SEMESTER			
MATH 221	Calculus I	4	MATH 152
MATH 221L	Calculus I Lab	0	Co-req. MATH 221
SPAN 250	Writing Techniques	3	SPAN 152
ENGL 153	Advanced Communicative English	3	ENGL 152
IMEN 205	Principles of Engineering Management	3	MATH 152
CHEM 203	General Chemistry I	4	MATH 151
CHEM 203 L	General Chemistry I Lab	0	Co-req. CHEM 203
		17	
SECOND YEAR - FIRST SEMESTER			
ENGI 122	Introd. to Computer Programming	3	MATH 152
MATH 222	Calculus II	4	MATH 221
MATH 222L	Calculus II Lab	0	Co-req. MATH 222
PHSC 215	Physics for Engineering I	4	MATH 221
PHSC 215L	Physics for Engineering I Lab	0	Co-req. PHSC 215
ENGL 231	Research and Writing	3	ENGL 153
IMEN 390	Probability for Engineers	3	MATH 221
		17	
SECOND YEAR - SECOND SEMESTER			
IMEN 395	Inferential Statistics for Engineers	3	IMEN 390 or, for Electrical and Computer Engineering students ELEN 360, or for Mechanical and Civil Eng. ENGI 280
ENGI 277	General Statics and Dynamics	3	PHSC 215
MATH 350	Linear Algebra	3	MATH 221
ENGI 210	Engineering Economy	3	MATH 221 [Co-Req]
PHSC 216	Physics for Engineering II	4	PHSC 215
PHSC 216	Physics for Engineering II Lab	0	Co-req. PHSC 216
		16	

Course Code	Course Title	Credits	Requisites
THIRD YEAR - FIRST SEMESTER			
IMEN 402	Work Measurement	3	IMEN 390 or, for Electrical and Computer Engineering students ELEN 360, or for Mechanical and Civil Eng. ENGI 280
IMEN 405	Statistical Quality Control	3	IMEN 390 or, for Electrical and Computer Engineering students ELEN 360, or for Mechanical and Civil Eng. ENGI 280; [IMEN 395 Co-req.]
ELEN 301	Electrical Networks I	3	PHSC 216
MATH 395	Differential Equations	3	MATH 222
SOSC 111	Individual, Community, Government and Social Responsibility I	3	
		15	
THIRD YEAR - SECOND SEMESTER			
IMEN 341	Accounting and Finance for Engineers	3	MATH 221 [Co-Req]
IMEN 403	Work Systems Design	3	ENGI 277 / IMEN 402
IMEN 406	Operations Research	3	MATH 350, or, for students from other programs, permission from Department Head
IMEN 407	Production Planning and Control	3	ENGI 210, [IMEN 395 and IMEN 406] Co-Reqs.
IMEN 414	Systems Simulation	3	ENGI122 / IMEN 395 / IMEN 402
		15	
FOURTH YEAR - FIRST SEMESTER			
IMEN 408	Facilities Planning	3	IMEN 402 / IMEN 406
	Industrial and Man. Engineering Elective	3	Depends on elective
IMEN 411	Systems Analysis and Design	3	ENGI 122 / IMEN 402
IMEN 413	Probabilistic Models in Operations Research	3	MATH 350/ MATH 395 / IMEN 390
IMEN 421	Engineering Project Management	3	ENGI 210; IMEN 390, or, for Electrical and Computer Engineering students, ELEN 360 or for Mechanical and Civil Eng. ENGI 280
IMEN 425	Enterprise Continuous Improvement	3	IMEN 402
		18	
FOURTH YEAR - SECOND SEMESTER			
IMEN 409	Design Project	3	Last semester status and Permission from Department Director
	Industrial and Man. Engineering Elective	3	Depends on elective
	Free Elective	3	Depends on elective
ACCO 303	Cost Accounting	3	IMEN 341
SOSC 112	Individual, community, government, and social responsibility II	3	SOSC 111
		15	

Minimum grade required: All courses of the program must be approved with a minimum grade of C.