

UNIVERSITY OF MIAMI
DEPARTMENT OF INDUSTRIAL ENGINEERING
BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING
Manufacturing Concentration

128 Credits
2019- 2020

Freshman Year:					
IEN 111	Introduction to Engineering I	3	IEN 112	Introduction to Engineering II	2
ENG 105	English Composition I	3	ENG 107	English Composition II: STEM	3
MTH 151	Calculus I for Engineers	5	MTH 162	Calculus II	4
PHY 221	University Physics I	3	PHY 222	University Physics II	3
			PHY 224	University Physics II Lab	1
			ECO 211 or 212	Principles of Microeconomics or Principles of Macroeconomics	3
Total			Total		
14			16		

Sophomore Year:					
	HA Cognate (HA Elective)*	3		HA Cognate (HA Elective)*	3
IEN 201	Methods Analysis & Work Measurements	3	ECE 205 or CAE 210 or MAE 303	Principles of Electrical Engineering I or Mechanics of Solids I or Thermodynamics I	3
MTH 210	Introduction to Linear Algebra	3	CHM 151	Chemistry for Engineers I	3
PHY 223	University Physics III	3	CHM 153	Chemistry Lab for Engineers	1
PHY 225	University Physics III Lab	1	MTH 311	Ordinary Differential Equations	3
	PS Cognate (PS Elective)*	3		PS Cognate (PS Elective)*	3
Total			Total		
16			16		

Junior Year:					
IEN 310	Introduction to Engineering Probability	3	IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3	IEN 361	Industrial Cost Analysis	3
IEN 380	Engineering Economy	3	IEN 363	Project Management for Engineers	3
IEN 441	Deterministic Models in Operations Research	3	IEN 406	Computer-Aided Manufacturing	3
	HA Cognate (Adv. HA Elective)*	3	IEN 442	Stochastic Models in Operations Research	3
	PS Cognate (Adv. PS Elective)*	3	IEN 407	Product Design for Manufacturing	3
Total			Total		
18			18		

Senior Year:					
IEN 465	Production & Inventory Control	3	IEN 494	Senior Project	3
IEN 512	Statistical Quality Control & Quality Management	3	IEN 507	Design of Manufacturing Systems	3
IEN 547	Computer Simulation Systems	3	IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 557	Ergonomics & Human Factors Engineering	3	IEN 568	Materials Handling & Facilities Planning	3
IEN 505	Robotics	3	IEN 509	Automated Assembly	3
Total			Total		
15			15		

*To be selected from lists of approved People and Society (PS)/Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA Cognate and PS Cognate (9 credit hours).