

**UNIVERSITY OF MIAMI**  
**BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING**  
**Pre-Medical Concentration**  
**Program Requirements – 138 Credits**  
**2018 – 2019**

**NAME:**

**STUDENT #:**

**COURSE**                      **CR SEM GR QP SUB**                      **INI COURSE**                      **CR SEM GR QP SUB**                      **INI**

**\*\*FRESHMAN YEAR\*\***

IEN 111 Introduction to Engineering I	3						IEN 112 Introduction to Engineering II	2						
ENG 105 English Composition I	3						ENG 107 Writing About Science	3						
MTH 151 Calculus I for Engineers	5						MTH 162 Calculus II	4						
PHY 205 University Physics I	3						CHM 111 Principles of Chemistry I	3						
ECO 211 or ECO 212 Economic Principles & Problems	3						CHM 113 Chemistry Lab I	1						
							PHY 206 University Physics II	3						
							PHY 208 University Physics II Lab	1						

**\*\*SOPHOMORE YEAR\*\***

BIL 150 General Biology	4						BIL 160 Evolution and Biodiversity	4						
BIL 151 General Biology Lab	1						BIL 161 Evolution and Biodiversity Lab	1						
CHM 112 Principles of Chemistry II	3						HA Cognate (HA Elective) <sup>1</sup>	3						
CHM 114 Chemistry Lab II	1						HA Cognate (HA Elective) <sup>1</sup>	3						
IEN 201 Methods Analysis & Measurements	3						MTH 311 – Introduction to Ordinary Differential Equations	3						
MTH 210 Introduction to Linear Algebra	3						PHY 209 University Physics III Lab	1						
PHY 207 University Physics III	3						PS Cognate (PS Elective) <sup>1</sup>	3						

**\*\*JUNIOR YEAR\*\***

CHM 201 Organic Chemistry I (Lecture)	3						Advanced Bioscience Elective <sup>2</sup>	3						
CHM 205 Organic Chemistry Laboratory I	1						Advanced Bioscience Elective <sup>2</sup>	3						
IEN 310 Introduction to Engineering Probability	3						Technical or Science Lab Elective <sup>3</sup>	1						
IEN 351 Industrial Safety Engineering	3						IEN 312 Applied Statistical Methods	3						
IEN 380 Engineering Economy	3						IEN 361 Industrial Cost Analysis	3						
IEN 441 Deterministic Models in Operations Research	3						IEN 363 Project Management for Engineers	3						
							IEN 442 Stochastic Models in Operations Research	3						

**\*\*SENIOR YEAR\*\***

HA Cognate (Advanced HA Elective) <sup>1</sup>	3						IEN 406 Computer-Aided Manufacturing	3						
IEN 465 Production & Inventory Control	3						IEN 494 Senior Project	3						
IEN 512 Statistical Quality Control & Quality Management	3						IEN 524 Decision Support Systems in IE	3						
IEN 547 Computer Simulation Systems	3						IEN 568 Material Handling & Facilities Planning	3						
IEN 557 Ergonomics & Human Factors Engineering	3						PS Cognate (Advanced PS Elective) <sup>1</sup>	3						
PS Cognate (Advanced PS Elective) <sup>1</sup>	3													

<sup>1</sup>Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

<sup>2</sup>Advanced Bioscience Elective is to be chosen from BIL 250, BIL 255, BIL 268, MIC 301, CHM 202, or BM 402. **Student should verify admission requirements of their medical school of interest to verify Adv. Bioscience (e.g., organic chemistry II, biochemistry, or both).**

<sup>3</sup>Technical or Science Elective Lab is selected from a science lab complementing the Adv. Bioscience Elective (e.g., CHM or BIL Lab).