UNIVERSITY OF MIAMI
BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING
Pre-Medical Concentration
Program Requirements – 138 Credits
2019 – 2020

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 English Composition II: Science and Technology	3					
MTH 151 Calculus I for Engineers	5						MTH 162 Calculus II	4					
PHY 221 University Physics I	3						CHM 111 Principles of Chemistry I	3					
ECO 211 or ECO 212 Principles of Microeconomics or Principles of Macroeconomics	3						CHM 113 Chemistry Lab I	1					
							PHY 222 University Physics II	3					
							PHY 224 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)[1]	3					
CHM 114 Chemistry Lab II	1						HA Cognate (HA Elective)[1]	3					
IEN 201 Methods Analysis & Measurements	3						MTH 311 – Introduction to Ordinary Differential Equations	3					
MTH 210 Introduction to Linear Algebra	3						PHY 225 University Physics III Lab	1					
PHY 223 University Physics III	3						PS Cognate (PS Elective)[1]	3					
JUNIOR YEAR													
CHM 201 Organic Chemistry I (Lecture)	3						Advanced Bioscience Elective [2*]	3					
CHM 205 Chemical Dynamics Laboratory	1						Advanced Bioscience Elective [2]	3					
IEN 310 Introduction to Engineering Probability	3						Technical or Science Lab Elective [3]	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 (HA Elective) [1]	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 (PS Elective) [1]	3					
PS Cognate (PS Elective) [1]	3												

[1] Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

[2]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 of interest to verify Adv. Bioscience requirements, e.g., organic chemistry II, biochemistry, or both.**

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

*Students planning on taking the MCAT should take BMB 401 **Biochemistry for the Biomedical Sciences** as their first Adv. Bioscience Elective.