

INDUSTRIAL ENGINEERING PROGRAM | Baccalaureate Curriculum Guide

First Semester Courses				Hrs	Gr	Second Semester Courses				Hrs	Gr
FRESHMAN											
MATH 220	Anal. Geom. & Calc I			3		MATH 221	Anal. Geom. & Calc. II			2	
IMSE 201	Introduction to Industrial Engineering			4		IMSE 250	Intro. to Manufacturing Processes			1	
CHM 210	Chemistry I			4		IMSE 251	Intro. to Manufacturing Processes Lab			4	
COMM 105	Public Speaking IA			3		ME 212	Engineering Graphics			3	
ENGL 100	Expository Writing I ¹			2		ECON 110	Principles of Macroeconomics			2	
IMSE 015	Engineering Assembly			0			Humanities or Social Science elective			3	
						IMSE 015	Engineering Assembly			0	
Total				16		Total				15	
SOPHOMORE											
MATH 222	Anal. Geom. & Calc. III			4		MATH 551	Applied Matrix Theory			3	
STAT 510	Introduction to Probability & Statistics I			3			Data Analytics Elective			3	
PHYS 213	Engineering Physics I			5		PHYS 214	Engineering Physics II			5	
	Computer Programming Elective			3		ACCTG 231	Accounting for Business Operations			3	
IMSE 015	Engineering Assembly			0			Humanities or Social Science elective			3	
						IMSE 015	Engineering Assembly			0	
Total				15		Total				17	
JUNIOR											
IMSE 560	Operations Research I			3		IMSE 660	Operations Research II			3	
IMSE 541	Statistical Quality Control			3		IMSE 050	Industrial Plant Studies			3	
IMSE 623	Industrial Ergonomics			3		IMSE 555	Industrial Facility Layout and Design			3	
IMSE 530	Engineering Economic Analysis			3		MANGT 420	Management Concepts			3	
IMSE 532	Industrial Project Evaluation			2			Engineering Elective			3	
	Engineering Elective			3		ENGL 415	Written Communication for Engineers			0	
IMSE 015	Engineering Assembly			0		IMSE 015	Engineering Assembly			0	
Total				17		Total				15	
SENIOR											
IMSE 633	Production Planning & Inventory Control			3		IMSE 685	Manufacturing Information Systems			3	
IMSE 643	Industrial Simulation			3			IMSE Elective			3	
IMSE 580	Manufacturing System Design & Analysis			4			IMSE Elective			3	
	Professional Elective			3			Professional Elective			3	
	Engineering Elective			3			Professional Elective			3	
IMSE 015	Engineering Assembly			0		IMSE 015	Engineering Assembly			0	
Total				15		Total				15	

Number of Hours Required for Graduation is 124

IMSE CURRICULUM NOTES:

Data Analytics Elective: IMSE 441, STAT 511 or STAT 705

Computer Programming Elective: CIS 200, CIS 209, ME 400, or CC 210

Engineering Electives: The 9 hours of basic engineering credit may not include more than 6 hours from a single department and the 9 hours must be selected from the following courses. Note, a student planning to take the FE exam is advised to take their 9 hours from classes with an *.

BAE 345, 346; CE 333, 530* (at most one of 333 and 530) and 533; CHE 354*, 355*, 356*, 520 and 521; ECE 410, 511, 519* and 571; ME 512*, 513, 571; IMSE 562.

Professional Electives: The 9 credit hours of professional electives are designed so that the student may specialize in an area of interest. Any of the following classes may count toward the professional elective requirement.

Any IMSE class; DEN 160 and DEN 161; any engineering class ≥ 300 level; any AG ECON class ≥ 500 level; any BUSINESS class ≥ 400 level; any CIS class ≥ 200 level; any ECON class ≥ 300 level; any LEAD class ≥ 300 level; MATH 240 and any Mathematics class ≥ 500 level except MATH 570 and 591; any Statistics class ≥ 500 level except STAT 702, 703, 706 and 710; ACCTG 241, 331, and 342; BIOL 198; BIOL 201; and CHEM 230, and any introduction course in the other COE programs.

IMSE Electives: The IMSE electives must be selected from the IMSE department. Each class must also be at least 3 credit hours.

Substitutions: ECON 120 can substitute for ECON 110. LEAD 350 can substitute for MANGT 420; IMSE 591 and IMSE 592 can substitute for IMSE 580. Concurrent or prerequisite requirement for IMSE 591 or 580 is 24 credit hours of IMSE courses of 500 level or above.

K-State 8: Required courses for a BSIE degree satisfy five of the K-State 8 areas. The student must fulfill the aesthetic interpretation (AI), global issues and perspectives (GP), and historical perspective (HP) tags. Most students will fill these tags with their humanities, social science or professional electives. Students who complete ECON 110 will complete the GP tag as well.

IMSE Assembly Requirement: Each semester a student must enroll in IMSE 015 unless he/she is a concurrent B.S./M.S.I.E. student in which case he/she must enroll in either IMSE 015 or IMSE 892.

IMSE Graduation Criterion: At most 6 credit hours of IMSE 500+ courses that earned a D may be applied to a student's B.S.I.E. graduation requirements.

IMSE Course Retake Criterion: Any IMSE course being taken for the third time in any five-year period may not be used to fulfill a student's B.S.I.E. graduation requirements.

¹ Prerequisite for ENGL 415 is a "B" or better in ENGL 100. ENGL 200 must be taken if ENGL 100's grade ≤ "C".