

KANSAS STATE UNIVERSITY
DEPARTMENT OF INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING

Effective Spring 2020

INDUSTRIAL ENGINEERING PROGRAM | Baccalaureate Curriculum Guide

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

Number of Hours Required for Graduation is 124

IMSE CURRICULUM NOTES:

Statistics Elective: STAT 511 or STAT 705

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

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; 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; 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

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 experience (AE), global perspective (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".