

KANSAS STATE UNIVERSITY
DEPARTMENT OF INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING

Effective Fall '18

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		IMSE	251	Intro. to Manufacturing Processes Lab	1		
MATH	220	Anal. Geom. & Calc I	4		MATH	221	Anal. Geom. & Calc. II	4		ECON	110	Principles of Macroeconomics	3		
CHM	210	Chemistry I	4		ME	212	Engineering Graphics	2		ME	212	Engineering Graphics	2		
ENGL	100	Expository Writing I ¹	3				Humanities or Social Science elective	3		IMSE	015	Engineering Assembly	0		
COMM	105	Public Speaking IA	2												
IMSE	015	Engineering Assembly	0												
Total				16		Total				15					
SOPHOMORE															
MATH	222	Anal. Geom. & Calc. III	4		MATH	551	Applied Matrix Theory	3		STAT	511	Introduction to Probability & Statistics II	3		
STAT	510	Introduction to Probability & Statistics I	3		PHYS	214	Engineering Physics II	5		PHYS	214	Engineering Physics II	5		
PHYS	213	Engineering Physics I	5		IMSE	530	Engineering Economic Analysis	2		IMSE	532	Industrial Project Evaluation	1		
ACCTG	231	Accounting for Business Operations	3				Humanities or Social Science elective	3		IMSE	015	Engineering Assembly	0		
IMSE	015	Engineering Assembly	0												
Total				15		Total				17					
JUNIOR															
IMSE	560	Operations Research I	3		IMSE	660	Operations Research II	3		IMSE	555	Industrial Facility Layout and Design	3		
IMSE	541	Statistical Quality Control	3		IMSE	555	Industrial Facility Layout and Design	3		MANGT	420	Management Concepts	3		
IMSE	623	Industrial Ergonomics	3				Engineering Elective	3		ENGL	415	Written Communication for Engineers	3		
		Computer Programming Elective	3		ENGL	415	Written Communication for Engineers	3		IMSE	050	Industrial Plant Studies	0		
		Engineering Elective	3		IMSE	015	Engineering Assembly	0		IMSE	015	Engineering Assembly	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	685	Manufacturing Information Systems	3		
IMSE	643	Industrial Simulation	3				IMSE Elective	3				Professional Elective	3		
		IMSE Elective	3				Professional Elective	3				Professional Elective	3		
		Professional Elective	3				Professional Elective	3		IMSE	015	Engineering Assembly	0		
		Engineering Elective	3												
IMSE	015	Engineering Assembly	0												
Total				15		Total				16					

Number of Hours Required for Graduation is 124

IMSE CURRICULUM NOTES:

Computer Programming Elective: The computer programming elective consists of 3 hours taken from 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 350, 354*, 355*, 356*, 520 and 521; ECE 410, 511, 519* and 571; ME 512*, 513*, 571; IMSE 562.

Professional Electives: The 9 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, Physics, Chemistry, Biochemistry, Biology, Geology, Kinesiology above 300; and CIS class above 200; MATH 340 and any Mathematics class above 500 except MATH 570 and 591; any Statistics class above 500 except STAT 702, 703, 706 and 710; BIO 198, 201; CHEM 230; FINAN 450, 510, 520, 643, 654; ACCTG 241, 331, 342, 433; ECON 510, 520, 530, 540; AGECE 680, 750.

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".