

Industrial Engineering

120 credit hours total

YEAR 1		YEAR 2		YEAR 3		YEAR 4	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
*MATH 220 (4) Analytic Geometry and Calculus I KSC-3	MATH 221 (4) Analytic Geometry and Calculus II PR: MATH 220 ≥C	MATH 222 (4) Analytic Geometry and Calculus III PR: MATH 221 ≥C	MATH 551 (3) Applied Matrix Theory PR: MATH 220	●IMSE 560 (3) Introduction to Operations Research I PR: MATH 222, MATH 551	●IMSE 660 (3) Operations Research II PR: IMSE 560, STAT 510	●IMSE 633 (3) Production Planning and Inventory Control PR: IMSE 250, PR/CO: IMSE 560	●IMSE 685 (3) Principles of Manufacturing Information Systems PR: Comp. Programming Elective, PR/CO: IMSE 633
CHM 210 (4) Chemistry I	ME 212 (2) Engineering Graphics PR/CO: MATH 205 or 220	*PHYS 213 (5) Engineering Physics I KSC-4 PR/CO: MATH 220	PHYS 214 (5) Engineering Physics II PR: PHYS 213 PR/CO: MATH 221	●IMSE 541 (3) Statistical Quality Control PR: Data Analytics Elective	●IMSE 555 (3) Industrial Facilities Layout and Design PR: IMSE 251, PR/CO: IMSE 530	IMSE 643 (3) Industrial Simulation PR: Comp. Programming Elective, PR/CO: IMSE 660, Data Analytics Elective	▲Elective (3) IMSE
DEN 160 (1) College of Engineering Orientation	▲Elective (3) Computer Programming PR: MATH 220	STAT 510 (3) Introductory Probability and Statistics I PR: MATH 221	▲Elective (3) Data Analytics PR: STAT 510	●IMSE 623 (3) Industrial Ergonomics PR: STAT 510	●IMSE 050 (0) Industrial Plant Studies PR: JR standing IE	●IMSE 580 (4) Manufacturing Systems Design and Analysis PR/CO: IMSE 541, 555, 633, 660	*Elective (3) Arts and Humanities KSC-6
*ENGL 100 (3) Expository Writing I KSC-1	*ENGL 200 (3) Expository Writing II KSC-1 PR: ENGL 100	●IMSE 201 (3) Introduction of Industrial Engineering PR/CO: MATH 220	IMSE 250 (2) Introduction to Manufacturing Processes and Systems PR/CO: MATH 220	IMSE 530 (2) Engineering Economic Analysis PR: MATH 220	*Elective (3) Institutional KSC-7	▲Elective (3) IMSE	*Elective (3) Arts and Humanities KSC-6
*COMM 106 (3) Public Speaking KSC-2	Elective (3) Social and Behavioral Sciences KSC-5	IMSE 251 (1) Manufacturing Processes Laboratory PR/CO: IMSE 250	IMSE 251 (1) Manufacturing Processes Laboratory PR/CO: IMSE 250	IMSE 532 (1) Industrial Project Evaluation PR/CO: IMSE 530	*Elective (3) Social and Behavioral Sciences KSC-5	▲Elective (3) IMSE	*Elective (3) Institutional KSC-7
IMSE 015 (0) (15 credit hours)	IMSE 015 (0) (15 credit hours)	IMSE 015 (0) (15 credit hours)	IMSE 015 (0) (17 credit hours)	IMSE 015 (0) (15 credit hours)	IMSE 015 (0) (15 credit hours)	IMSE 015 (0) (13 credit hours)	IMSE 015 (0) (15 credit hours)

KEY

- = Prerequisite for another course
- PR = Prerequisite requirement
- PR/CO = Prerequisite or concurrent requirement
- * = K-State Core (KSC) course
- ▲ = See department approved electives
- = Only offered in the semester shown

Industrial Engineering Curriculum Notes

- The Industrial Engineering Approved Elective Lists and Requirements can be located at imse.k-state.edu/academics/undergraduate/degree-requirements.
 - **Analytics Elective:** Choose one course from the approved department elective list.
 - **Computer Programming Elective:** Choose one course from the approved department elective list.
 - **Engineering Electives:** Choose 6 hours from the approved departmental list.
 - **IMSE Electives:** Choose 6 hours of IMSE courses from the IMSE department.
- **Substitutions:** IMSE 591 and IMSE 592 can substitute for IMSE 580.
- **IMSE Graduation Criterion:** To graduate with a Bachelor of Science in industrial engineering, students must have a ≥ 2.200 GPA in all IMSE classes taken for undergraduate credit at Kansas State University. Course grades that have been removed by the K-State Retake policy will not apply to this GPA calculation.
- **IMSE Course Retake Criterion:** Any IMSE course being taken for a third time in any five-year period may not be used to fulfill a student's B.S.I.E. graduation requirements.
- **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 the student must enroll in either IMSE 015 or IMSE 892.

K-State Core

The K-State Core (KSC) is the university's version of the systemwide general education framework established by the Kansas Board of Regents.

KSC requirement 1 – English (6 hours)

KSC requirement 2 – Communications (3 hours)

KSC requirement 3 – Math and Statistics (3 hours)

KSC requirement 4 – Natural and Physical Sciences (4-5 hours)

KSC requirement 5* – Social and Behavioral Sciences (6 hours)

KSC requirement 6* – Arts and Humanities (6 hours)

KSC requirement 7 – Institutional Electives (6 hours)

To view course lists for each requirement, visit k-state.edu/general-education.

**Requires two courses from two different subject areas.*