Industrial Engineering

**Flowchart is for advising purposes only. Students are responsible for complying with University Catalog requirements.**

**YEAR 1**
- **FALL**
  - MATH 220 (4)
    - Analytic Geometry and Calculus I
    - KSC-3
  - CHM 210 (4)
    - Chemistry I
    - PR/CO: MATH 220
  - DEN 160 (1)
    - College of Engineering Orientation
  - ENGL 100 (3)
    - Expository Writing I
    - KSC-1
  - COMM 106 (3)
    - Public Speaking
    - KSC-2
  - Elective (3)
    - Computer Programming
    - PR: MATH 220
- **SPRING**
  - MATH 221 (4)
    - Analytic Geometry and Calculus II
  - ME 212 (2)
    - Engineering Graphics
    - PR/CO: MATH 220
  - STAT 510 (3)
    - Introductory Probability and Statistics I
    - KSC-4
  - IMSE 250 (2)
    - Introduction to Manufacturing Processes and Systems
    - PR/CO: MATH 220
  - ACCTG 231 (3)
    - Accounting for Business Operations
    - PR/CO: IMSE 250
  - IMSE 015 (0)
    - Industrial Plant Studies
    - PR: MATH 220, PHYS 213
  - Elective (3)
    - Social and Behavioral Science
    - KSC-5
- **YEAR 2**
  - **FALL**
   - MATH 222 (4)
     - Analytic Geometry and Calculus III
     - PR: MATH 221 ≥C
  - PHYS 213 (5)
    - Engineering Physics I
    - KSC-4
  - PHYS 214 (5)
    - Engineering Physics II
    - PR: MATH 221, PHYS 213
  - IMSE 251 (1)
    - Manufacturing Processes Laboratory
    - PR/CO: IMSE 250
  - IMSE 532 (1)
    - Industrial Project Evaluation
    - PR: MATH 220
- **SPRING**
  - MATH 551 (3)
    - Applied Matrix Theory
    - PR: MATH 220
  - IMSE 541 (3)
    - Statistical Quality Control
    - PR: Data Analytics Elective
  - IMSE 560 (3)
    - Introduction to Operations Research I
    - PR: MATH 222, MATH 551
  - IMSE 555 (3)
    - Industrial Facilities Layout and Design
    - PR: IMSE 251, IMSE 530
  - IMSE 660 (3)
    - Production Planning and Control
    - PR: IMSE 250, IMSE 660
  - Elective (3)
    - Engineering
    - KSC-7
- **YEAR 3**
  - **FALL**
    - MATH 222 (4)
    - Analytic Geometry and Calculus III
    - PR: MATH 221 ≥C
  - PHYS 213 (5)
    - Engineering Physics I
    - KSC-4
  - PHYS 214 (5)
    - Engineering Physics II
    - PR: MATH 221, PHYS 213
  - IMSE 251 (1)
    - Manufacturing Processes Laboratory
    - PR/CO: IMSE 250
  - IMSE 532 (1)
    - Industrial Project Evaluation
    - PR: MATH 220
  - IMSE 530 (2)
    - Engineering Economic Analysis
    - Institutional
  - IMSE 555 (3)
    - Industrial Facilities Layout and Design
    - PR: IMSE 251, IMSE 530
  - IMSE 555 (3)
    - Industrial Facilities Layout and Design
    - PR: IMSE 251, IMSE 530
  - IMSE 660 (3)
    - Production Planning and Control
    - PR: IMSE 250, IMSE 660
  - Elective (3)
    - Engineering
    - KSC-7
- **SPRING**
  - MATH 551 (3)
    - Applied Matrix Theory
    - PR: MATH 220
  - IMSE 541 (3)
    - Statistical Quality Control
    - PR: Data Analytics Elective
  - IMSE 560 (3)
    - Introduction to Operations Research I
    - PR: MATH 222, MATH 551
  - IMSE 555 (3)
    - Industrial Facilities Layout and Design
    - PR: IMSE 251, IMSE 530
  - IMSE 660 (3)
    - Production Planning and Control
    - PR: IMSE 250, IMSE 660
  - Elective (3)
    - Engineering
    - KSC-7
- **YEAR 4**
  - **FALL**
     - MATH 551 (3)
      - Applied Matrix Theory
      - PR: MATH 220
  - PHYS 213 (5)
    - Engineering Physics I
    - KSC-4
  - PHYS 214 (5)
    - Engineering Physics II
    - PR: MATH 221, PHYS 213
  - IMSE 251 (1)
    - Manufacturing Processes Laboratory
    - PR/CO: IMSE 250
  - IMSE 532 (1)
    - Industrial Project Evaluation
    - PR: MATH 220
  - IMSE 530 (2)
    - Engineering Economic Analysis
    - Institutional
  - IMSE 555 (3)
    - Industrial Facilities Layout and Design
    - PR: IMSE 251, IMSE 530
  - IMSE 555 (3)
    - Industrial Facilities Layout and Design
    - PR: IMSE 251, IMSE 530
  - IMSE 660 (3)
    - Production Planning and Control
    - PR: IMSE 250, IMSE 660
  - Elective (3)
    - Engineering
    - KSC-7
- **SPRING**
  - MATH 551 (3)
    - Applied Matrix Theory
    - PR: MATH 220
  - IMSE 541 (3)
    - Statistical Quality Control
    - PR: Data Analytics Elective
  - IMSE 560 (3)
    - Introduction to Operations Research I
    - PR: MATH 222, MATH 551
  - IMSE 555 (3)
    - Industrial Facilities Layout and Design
    - PR: IMSE 251, IMSE 530
  - IMSE 660 (3)
    - Production Planning and Control
    - PR: IMSE 250, IMSE 660
  - Elective (3)
    - Engineering
    - KSC-7

**Total Credit Hours:** 120
Industrial Engineering Curriculum Notes

- The Industrial Engineering Approved Elective Lists and Requirements can be located here: 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 $\geq 2.200$ 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 he/she 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/provost/kstate-core.

*Requires two courses from two different subject areas.