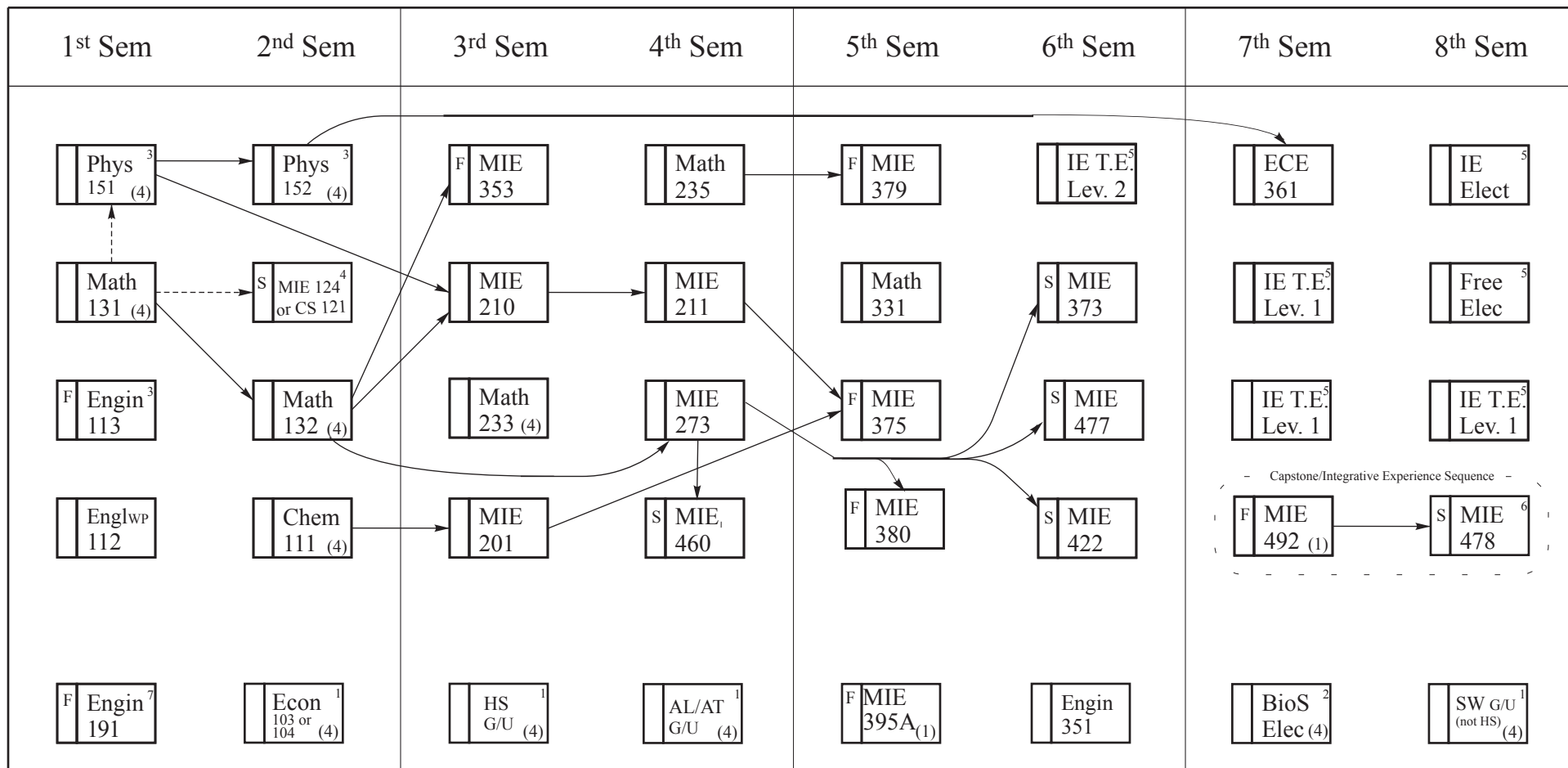


Mechanical and Industrial Engineering Department

INDUSTRIAL ENGINEERING CURRICULUM



If only offered fall (F) or spring (S)

F MIE a
401 (4) Note on reverse Credits, if other than 3

Prerequisite course
 Prerequisite that may be taken concurrently

Scheduling Note: Courses offered vary from year to year and from semester to semester. The sequence of courses shown is only a sample. Students will plan their individual programs after consulting the University Registration Materials and the MIE Department Registration Notes.

Graduation Clearance: Both University and Department Cumulative GPAs of 2.0 are required for graduation.

Prerequisites: Not all prerequisites are shown. Consult SPIRE Course Descriptions for complete listings. Students must satisfy prerequisites or obtain instructor permission, irrespective of SPIRE enrollment.

Total Credits: 124
Revised 2/27/2020

IE Degree Program, Flowchart Notes

NOTE: The flowchart is not the official student record. It should be used in conjunction with your university transcript and your academic requirements report.

Notes: 1. **Social World Requirement:** 4 COURSES, each 4 credits (one from each group)

- 1) AL or AT 3) HS
- 2) SB 4) AL, AT, SB, SI or I

Social World Diversity Requirement

One course with a United States diversity designation (U) and one with a global diversity designation (G) are required. These need not and are typically not separate from courses used to satisfy the Social World Requirement.

- 2. **Biological Science Requirement:** Any 4 cr course having the Biological Science (BS) designation.
- 3. **Alternative Courses:** An approved alternative exists to the "standard" course shown.
- 4. **MIE 124/CS 121:** Both MIE 124 and CS 121 introduce students to computer programming. MIE 124 is oriented more toward engineering problems. CS 121 is taught with Java and is a prerequisite for most computer science courses. As such, students who plan to take an upper level CS course, perhaps as an engineering elective, or plan to minor in CS or math should consider taking CS 121.
- 5. **IE Program Electives:** The IE curriculum includes 3 Level 1 IE Tech Electives, 1 Level 2 IE Tech Elective, an IE Elective and a Free Elective. Students are encouraged to use elective courses to delve deeper into one of the application areas or disciplines related to the core IE curriculum. Advisors can help students in selecting appropriate groups of courses or "tracks." Generally, electives are offered in only one semester and some are not offered every year. Scheduling of and enrollment in courses outside of the MIE Department is at the discretion of the outside department.

The free elective can be any course at the university except one that is a prerequisite for a required course, e.g. Math 104, or which overlaps significantly with a required course, e.g. Math 127. *See the registration notes for a listing of IE Tech Electives and examples of approved non-MIE Tech Electives.*

- 6. **Capstone Prerequisites:** All required IE courses are co-requisites for MIE 478, i.e., all required IE courses must be taken prior to or concurrently with MIE 478. Permission of the instructor is required in any case in which all prerequisites are not met.
- 7. **First Year Seminar:** This course is not a graduation requirement and is not included in the total credits.

IE COURSE TITLES AND NUMBERS

ENGIN 113 Introduction to Mechanical & Industrial Engineering
ENGIN 191 First Year Seminar
MIE 124 Computational Approaches to Engineering Problems (using MATLAB)
MIE 201 Introduction to Materials Science
MIE 210 Statics
MIE 211 Strength of Materials
MIE 230 Thermodynamics
MIE 273 Probability and Statistics for Engineers
MIE 353 Engineering Economic Decision Making
MIE 373 Introduction to Simulation Methods
MIE 375 Manufacturing Processes
MIE 379 Deterministic Operations Research
MIE 380 Stochastic Operations Research
MIE 395A Seminar, Engineering Professionalism
MIE 422 Statistical Quality Control
MIE 460 Human Factors Engineering
MIE 477 Production Planning & Control
MIE 478 Capstone Design (IE)
MIE 492 Seminar

non-IE COURSE TITLES AND NUMBERS

Chem 111 Chemistry I
ECE 361 Introduction to Electrical Engineering
ENGIN 351 Junior Year Technical Writing
EnglWP 112 College Writing
Math 131 Calculus I
Math 132 Calculus II
Math 233 Calculus III (Vector Calculus) Math 235 Linear Algebra
Math 331 Calculus IV (Differential Equations) Phys 151 Physics I (Forces, Energy & Work) Phys 152 Physics II (Electricity & Magnetism)