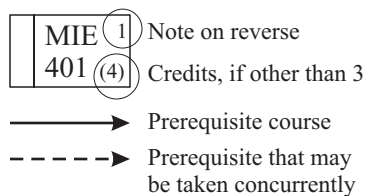
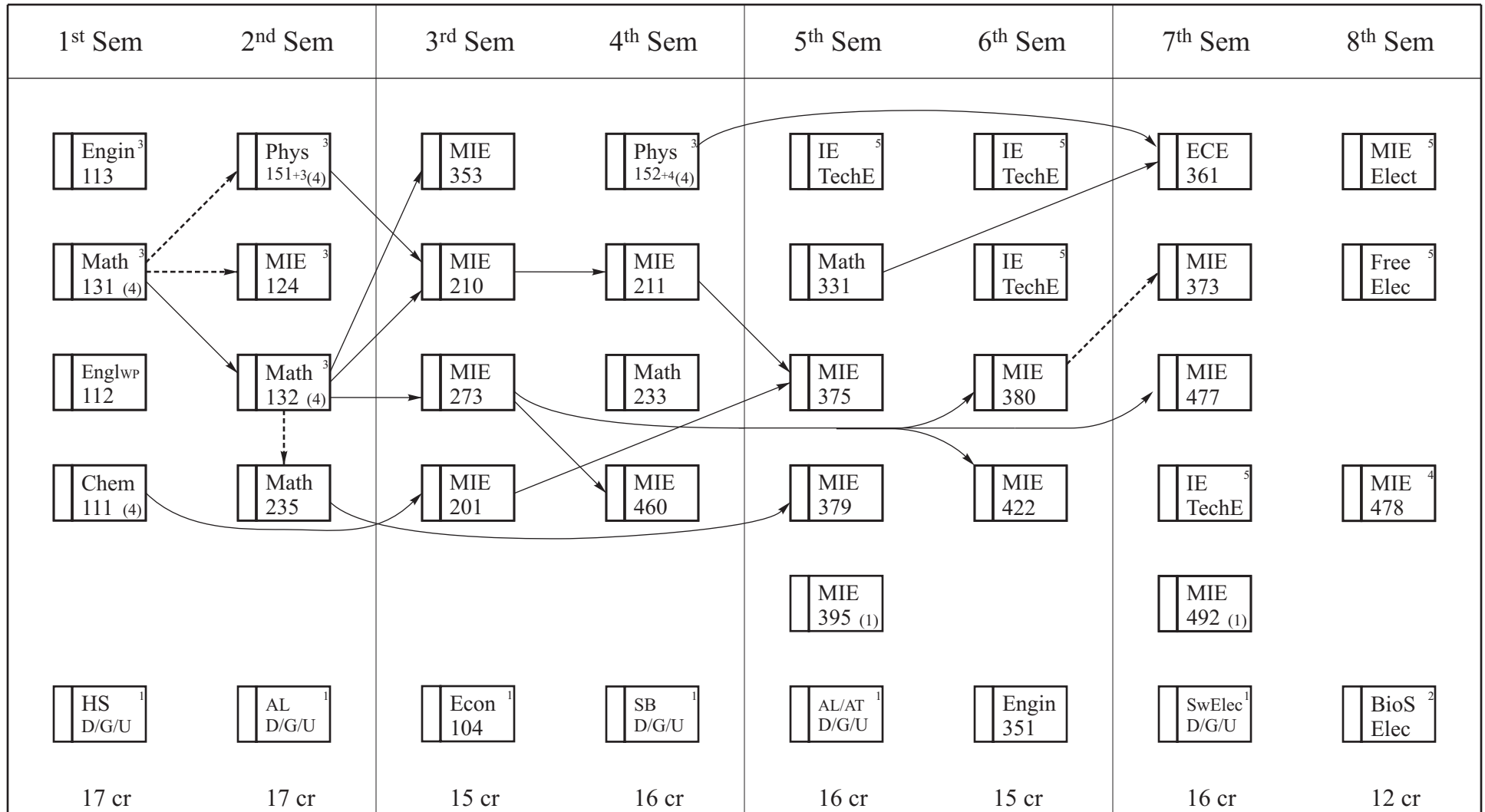


Mechanical and Industrial Engineering Department
INDUSTRIAL ENGINEERING CURRICULUM (IE 2012)
 Curriculum for the Class of 2012, entering the IE Major after 6/2009



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 Pre-Registration Materials and the MIE Department Pre-Registration Notes.

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

Prerequisites: Not all prerequisites are shown. Consult the Undergraduate Guide for complete listings. Students must satisfy prerequisites or obtain instructor permission, irrespective of Spire enrollment.

Total Credits: 124
 Revised 4/1/2009
 Catalog 2009-10
 to 2009-10

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 degree progress report. Consult the Guide to Undergraduate Programs for more detailed explanations of department, college, and university graduation requirements.

Notes: 1. **Social World Requirement:** 6 COURSES (one from each group)

- 1) AL 4) HS or AL or AT or SB or I
- 2) SB 5) AL or AT or I
- 3) HS 6) SB or I

Social World Diversity Requirement

One of the six Social World courses must have global diversity designation (G) and one must have a United States diversity designation (U)

- 2. **Biological Science Requirement:** Any course having the Biological Science (BS) designation.
- 3. **Alternative Courses:** An approved alternative exists to the “standard” course shown in the flow chart, e.g. Math 135 can be taken in place of Math 131. Please refer to the catalog.
- 4. **Capstone Prerequisites:** All required IE courses are corequisites 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.
- 5. **IE Program Electives:** The IE curriculum includes 4 IE Tech Electives, an MIE 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.

An MIE elective is any MIE course at or above the 300 level except MIE 520 or MIE 586. Courses related to IE but taught in other Engineering Departments, Math, or ISOM may be acceptable. See Professor Rinderle for approval of non MIE courses.

An IE Tech elective is any MIE elective except 585 and 587. Most upper level engineering and math courses will also be acceptable. See Prof. Rinderle for approval of non MIE courses.

The free elective can be any course at the university except one that is a prerequisite for a required course, e.g. Math 104.

MIE COURSE TITLES AND NUMBERS

MIE 201 Intro Materials Science	MIE 380 Stochastic Operations Research
MIE 210 Statics	MIE 395 Seminar, Engineering Professionalism
MIE 211 Strength of Materials	MIE 397B System Dynamics
MIE 213 Intro Mech and Indus Engr Design	MIE 402 ME Lab II
MIE 230 Thermodynamics	MIE 413 Design of Mechanical Assemblies
MIE 273 Probability and Statistics for Engineers	MIE 415 Design of Mechanical Systems
MIE 302 ME Lab I	MIE 418 Design of Mechanisms
MIE 310 Dynamics	MIE 422 Statistical Quality Control
MIE 313 Design of Mechanical Components	MIE 444 ME Automatic Controls
MIE 340 Fluid Mechanics I	MIE 460 Human Factors Engineering
MIE 353 Engr Economic Decision Making	MIE 477 Production Planning & Control
MIE 354 Heat Transfer	MIE 478 Capstone Design (IE)
MIE 373 Intro Simulation Methods	MIE 492 Seminar
MIE 375 Manufacturing Processes	MIE 497A Design Against Failure
MIE 379 Deterministic Operations Research	MIE 497E Thermo-fluid Design

Industrial Engineering Majors and
ENGIN Students planning to be IE Majors

Industrial Engineering

Degree Program Requirements Revisions, April 2009

Overview

Revisions to the IE Degree Program have been approved which reduce content principally associated with mechanical design and which reinforce aspects associated with professional engineering practice.

Applicability

Curriculum revisions have been approved and will appear in the *Guide to Undergraduate Programs* to be published this Spring. The revised curriculum will apply to all students who enter the IE major after June 1, 2009, including almost all current freshmen. Current IE students, i.e. those who entered the major prior to June 1, 2009, will continue to be bound by the existing curriculum, however, current students may petition to be allowed to follow the new curriculum or parts of the new curriculum.

Requirements Changes

The new, complete IE Degree Program Requirements are listed in the 2009-10 *Guide to Undergraduate Programs*. The PDF of the MIE entry will be posted on the MIE web site, probably late on April 2. The IE Flow chart reflecting the new curriculum is posted on the MIE website and is available outside ELab 208F

There are two principle changes to the IE requirements. The first is that MIE 213, *Introduction to Mechanical and Industrial Engineering Design*, will no longer be required.

The second change is that MIE 395 (1 cr.), *Professional Seminar*, will now be required.

The MIE Faculty also revised guidelines as to which courses will satisfy the elective requirements. In general, only one independent study course (MIE 496) can be used to satisfy an IE Tech Elective requirement. One semester of SMV work can be applied to the MIE Elective requirement and one semester can be applied to the IE Tech Elective requirement. Integrated research and thesis (MIE 499Y and 499T) can both be applied to the IE Tech Elective requirement, irrespective of participation in Commonwealth College, subject to the restriction that at least two regular courses must be among those used to satisfy IE Tech Elective requirements. Credit for serving as an undergraduate TA will no longer satisfy any degree requirement.

Accommodations for Current ME Majors

All IE students are strongly encouraged to take MIE 395, although current IE students who have completed MIE 213 will not be required to complete MIE 395.

Students may request degree program exceptions by petition.

Program revision petition forms will be available online or from Dorothy Adams.