### Fall 2014 IE Degree Map

**First year**
- **MATH 1411+ Calculus I** (MATH 1508+)
  - ENGL 1311 + English Composition
  - CHEM 1305 + & CHEM 1105 + General Chemistry (MATH 1508+)
  - HIST 1301 + History of U. S. to 1865
  - Visual and Performing Arts Elective (#)

**Second year**
- **MATH 1312+ Calculus II** (MATH 1411+)
  - ENGL 1312 + Research and Critical Writing (ENGL 1311+)
  - IE/CE 1205 or MECH 1305 + Graphics Fundamentals
  - HIST 1302 + History of the U. S. since 1865
  - COMM 1302 + Business and Professional C.

- **MATH 2313+ Calculus III** (MATH 1312+)
  - IE/CE 2315 or MECH 1321 + Statics (MATH 1411+)
  - IE/MME 2303 or MECH 2331 + Mts and Mfg Proc (CHEM 1305+)
  - IE 2126/MECH 1321 + Manufacturing Engineering Lab (IE/CE 1205 or MECH 1305+)
  - PHYS 2421 + Fields and Waves (MATH 1312+, or concurrent with MATH 1312)

**Third year**
- **IE 3331 Systems Engineering**, (IE 3373 +) Fa
  - IE 3373 + Engineering Probability (MATH 2313+)
  - MATH 3323 + Matrix Algebra (MATH 1312)
  - IE 3332 Safety Engineering (IE 3373 +) Sp
  - IE 3352 Design of Experiments (IE 3373 +) Sp
  - IE 3477 Methods and Ind. Ergonomics (IE 3373 +) Sp
  - Technical Elective* Sp & Fa
  - POLS 2310 + Introduction to Politics
  - IE 4353 Industrial Syst. Simulation (IE 3373 +) Fa
  - IE 4391 Production and Inv. Control (IE 3373 +) Fa
  - IE 4364 Industrial Layout (IE 3373 +) Fa
  - Technical Elective* Sp & Fa
  - POLS 2311 + American Gov. And Politics

**Forth year**
- IE 4385 Stat. Quality Control and Reliability (IE 3373 +) Sp
  - IE 4466 Senior Design (Final semester, 2.0 GPA overall and in major - IE) Sp & Fa
  - IE 4490 Operations Research II (IE 3373 +) Sp
  - IE 3390 Operations Research I (MATH 3323 +) Fa
  - Math 4329 Numerical Analysis (MATH 3323 +) Sp & Fa
  - PHIL 2306 + Ethics

**Total Semester Credit Hours 120**

**NOTES:**
- Prerequisites listed in parentheses
- Fa: Course offered only on Fall term; Sp: Course offered only on Spring term; Sp & Fa: Course offered only on Spring & Fall terms. All the other courses are offered Fall, Spring and Summer terms
- + : Grade of "C" or better required
- *: Selected from the list of University Core Approved Classes
- #: Selected from the following list of approved Technical Electives: IE 4333, IE 4371, IE 4395, IE 4396, IE 4397, ENGL 3359, OSCM 3331, OSCM 3333, OSCM 3337, OSCM 4375, any upper course from the College of Engineering and any upper division course from the College of Science.