

State University of New York at Binghamton
Thomas J. Watson School of Engineering and Applied Science
BS in Industrial and Systems Engineering-Four-Year Program

Application Code: 1367

If undecided use: 0229

FALL 2012

ENGINEERING DESIGN DIVISION

(The freshman year is common to all engineering majors)

Fall

Math 221 Calculus I (M)
Chem 111 Chemical Principles (L)
WTSN 111 Exploring Engineering I
WTSN 103 Engineering Communications I
General Education Elective (G)
Body/Wellness

Spring

Math 222 Calculus II
PHYS 131 General Physics I
WTSN 112 Exploring Engineering II
WTSN 104 Engineering Communications II
General Education Elective (P)
Body/Wellness

Note: the GenEd "J" Designation is earned after successful completion of WTSN 103, 104, 111, and 112

Final three years of Industrial and Systems Engineering Major

Year 2

Fall

Math Elective:
Math 371 Ordinary Differential Equations
or
Math 323 Calculus III
PHYS 132 General Physics II
ME 273 Statics
ISE 231 Human Factors
ISE 295 Seminar Course

Spring

Math 304 Linear Algebra
ISE 212 Engineering Computing
ISE 261 Probabilistic Systems I
General Education Elective (A)

Year 3

Fall

ISE 364 Engineering Economics & Project
Management
ISE 362 Probabilistic Systems II
ISE 370 Industrial Automation
Technical Elective (ISE,ME,EECE,CS,BE)

Spring

ISE 320 Optimization & Operations Research I
ISE 363 Designing with Experiments
ISE 311 Enterprise Systems
General Education Elective (H)

Year 4

Fall

ISE 420 Optimization & Operations Research II
ISE 421 Modeling and Simulation
ISE 491 Systems Design
Free Elective

Spring

ISE 492 Systems Design Project
Technical Elective (ISE, ME, EECE, CS, BE)
Technical Elective (ISE, ME, EECE, CS, BE)
General Education Elective (N)

Industrial and Systems Engineering (ISE)

We live in a complex society, but in the Systems Science and Industrial Engineering Department, we are doing our best to make it less complicated. We study complex systems and look for simplifying solutions. We work across all environments and fields of study including manufacturing, management, service industries, healthcare systems, and others. So, our time could be spent at a hospital developing ways to decrease wait times in emergency rooms, or you might find us in a manufacturing facility working on quality assurance issues or consulting at amusement parks, and beyond.

We have structured our BS ISE program so students will be capable of the following within a few years of graduation:

1. designing, developing, and managing both deterministic and nondeterministic complex processes and systems involving people, information, equipment, and financial and material assets, with special emphasis on using probabilistic methods, design of experiments, and simulation.
2. joining and contributing to industrial, government, and service organizations, and to operate effectively with a high level of professional and ethical standards.
3. independent learning, acquiring professional certifications and/or advanced degrees in reputable graduate schools in manufacturing, service, and enterprise systems.
4. communicating and contributing effectively in a diverse team environment.

Our BS ISE program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The faculty members are committed to providing the students with an outstanding academic experience. Our curriculum also provides excellent preparation for graduate studies. For qualified undergraduates, we offer several combined-degree (accelerated five-year) programs that can lead to both a BS degree in ISE and an MS degree in either Industrial and Systems Engineering (MS ISE), Systems Science (MS SS), or Master of Business Administration (MBA).

For more information, visit: <http://www.ssie.binghamton.edu>