

**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 2019**

**ENGINEERING DESIGN DIVISION**

***(The freshman year is common to all engineering majors)***

**Fall**

Math 224/225 Diff Calc/Integ Calc (M) (4)  
CHEM 111 Chemical Principles (4)  
WTSN 103 Engineering Communications I (2)  
WTSN 111 Intro to Engineering Design (2)  
General Education Elective (G, P, A, N, H) (4)  
Body/Wellness (Y, S, B) (1)

**Total Credits 17**

**Spring**

Math 226/227 IntegTech & App/Inf Ser (Calc I) (4)  
PHYS 131 General Physics I (4)  
WTSN 104 Engineering Communications II(WTSN103) (2)  
WTSN 112 Intro to Engineering Analysis (WTSN 111) (2)  
General Education Elective (G, P, A, N, H) (4)  
Body/Wellness (Y, S, B) (1)

**Total Credits 17**

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

**Final three years of Industrial and Systems Engineering Major**

**Year 2**

**Fall**

Math 324 Ordinary Diff Equations (Calc II) (4)  
**or**  
Math 323 Calculus III (Calc II) (4)  
PHYS 132 General Physics II (Phys I) (4)  
ME 273 Statics (Phys I) (3)  
**ISE 231 Human Factors (Calc II) (4)**  
ISE 295 Seminar Course (1)

**Total Credits 16**

**Spring**

**ISE 211 Engineering Economics (4)**  
ISE 261 Probabilistic Systems I (WTSN 104/112) (4)  
General Education Elective (G, P, A, N, H) (4)  
General Education Elective (G, P, A, N, H) (4)

**Total Credits 16**

**Year 3**

**Fall**

ISE 311 Enterprise Systems (ISE 211) (4)  
ISE 314 Computer Program for Engineers (4)  
**ISE 362 Probabilistic Systems II & DOE (ISE 261) (4)**  
MATH 304 Linear Algebra (Calc I) (4)

**Total Credits 16**

**Spring**

**ISE 212 Engineering Computing (WTSN 104/112) (4)**  
ISE 320 Optimiz. & Operations Research I (MATH 304) (4)  
ISE 363 Quality Engineering (ISE 362) (4)  
General Education Elective (G, P, A, N, H) (4)

**Total Credits 16**

**Year 4**

**Fall**

ISE 370 Industrial Automation (ISE 212) (4)  
ISE 420 Optimiz & Operation Res II (ISE 320) (4)  
ISE 421 Modeling and Simulation (ISE 320, ISE 362) (4)  
**ISE 491 Systems Engineering Design (ISE 311, ISE 362) (4)**

**Total Credits 16**

**Spring**

**ISE 492 Systems Design Project (ISE 491) (4)**  
Technical Elective (ISE, ME, EECE, CS, BE) (3)  
Technical Elective (ISE, ME, EECE, CS, BE) (3)  
Technical Elective (ISE, ME, EECE, CS, BE) (3)

**Total Credits 13**

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