## Industrial Engineering BSE Career-Focus Study Areas

Select a minimum of nine semester hours from the following Career-Focus Study Areas. Students can mix and match courses from the different areas:

*Please note that some of these courses may require additional prerequisites

**Students only have to submit the Career Focus Proposal if they are choosing courses that are not listed on this document.

### Operations Research
- IEE 421 Urban Operations Research (3)
- IEE 426 Operations Research in Health Care (3)
- MAT300 Mathematical Structures (3)

### Engineering Management
- IEE 456 Intro to Systems Engineering (3)
- IEE 454 Risk Management (3)
- IEE 458 Project Management (3)
- IEE 431 Engineering Administration

### Financial Engineering
- IEE 412 Introduction to Financial Engineering (required) (3)
- IEE 454 Risk Management (3)
- IEE 431 Engineering Administration (3)

### Computer/Information Systems Engineering
*Students should plan to do MAT 300 for TE for this focus
- CSE 310 Data Structures and Algorithms (3)
- CSE 360 Intro to Software Engineering (3)
- CSE 430 Operating Systems (3)
- IEE 456 Intro to Systems Engineering (3)

### Global Industrial Engineering Leadership
- ECN 306 Survey of International Economics (3)
- MGT 302 Principles of International Business (3)
- MGT 459 International Management (3)

### Industrial Engineering 4+1 Program
Three graduate-level courses (IEE5XX) of which two or more are from the Master’s Core Class list

Note: Students must be admitted into the 4+1 Program. See your academic advisor for details.

### Health Care Systems Engineering
- IEE 421 Urban Operations Research
- IEE 426 Operations Research in Health Care
- IEE 431 Engineering Administration

### Industrial Statistics
- IEE 381 Lean Six Sigma Methodology (3)
- STP 425 Stochastic Processes (3)
- STP 429 Experimental Statistics (3)

### Electronics Manufacturing
- EEE 352 Properties of Electronic Materials (4)
- EEE 435 Microelectronics (3)
- EEE 436 Fundamentals of Solid State Devices (3)

### Technical Elective Options:
- IEE 381 Lean Six Sigma Methodology
- IEE 431 Engineering Administration
- IEE 412 Introduction to Financial Engineering
- IEE 421 Urban Operations Research
- IEE 426 Operations Research in Health Care
- IEE 437 Human Factors Engineering
- IEE 454 Risk Management
- IEE 456 Intro to Systems Engineering
- IEE 458 Project Management
- IEE 477 System Dynamics and Thinking
- CSE 494 Introduction to Data Mining
- FSE 301 Entrepreneurship for Engineers
- SCM 300 Global Supply Operations
- MAE 384 Advanced Mathematical Methods for Engineers

Any 300-level or higher approved engineering or business course with Program Chair approval

*Updated 9/24/20