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)	**Financial Engineering** IEE 412 Introduction to Financial Engineering (required) (3) IEE 454 Risk Management(3) IEE 431 Engineering Administration (3)
Engineering Management IEE 456 Intro to Systems Engineering (3) IEE 454 Risk Management (3) IEE 458 Project Management (3) IEE 431 Engineering Administration	**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 Statistics** IEE 381 Lean Six Sigma Methodology (3) STP 425 Stochastic Processes (3) STP 429 Experimental Statistics (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.*	**Electronics Manufacturing** EEE 352 Properties of Electronic Materials (4) EEE 435 Microelectronics (3) EEE 436 Fundamentals of Solid State Devices (3)
Health Care Systems Engineering IEE 421 Urban Operations Research IEE 426 Operations Research in Health Care IEE 431 Engineering Administration	All course options should be discussed with an advisor, as classes have prerequisites and are sequential.
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