

# Industrial Engineering (PhD)

## Degree Requirements

Code	Title	Hours	Counts towards
<b>Required Course</b>		1	
ISE 801	Seminar		
<b>Core Courses</b>		18	
Select Core courses from the list below. Core Courses should include a minimum of two 700-level ISE courses approved in conjunction with the academic committee			
<b>Elective / Research Courses</b>		54	
"Elective / Research Courses" are approved in conjunction with the academic committee			
<b>Total Hours</b>		73	

## Core Courses

Code	Title	Hours	Counts towards
<b>Select a minimum of one course from each category:</b>			
<b>Human Factors and Ergonomics</b>			
ISE 540	Human Factors In Systems Design		
ISE 541	Occupational Safety Engrg		
ISE 544	Occupational Biomechanics		
ISE 741	Systems Safety Engineering		
ISE 744	Human Information Processing		
ISE 745	Human Performance Modeling		
ISE 794	Advanced Problems in Ergonomics		
<b>Manufacturing Systems</b>			
ISE 515	Manufacturing Process Engineering		
ISE 517	Fundamentals of Additive Manufacturing		
ISE 554	Introduction to Product Development		

ISE 716 Automated Systems Engineering

ISE 718 Micro/Nano-Scale Fabrication and Manufacturing

### Supply Chain and Logistics

ISE 552 Design and Control of Production and Service Systems

ISE 553 Modeling and Analysis of Supply Chains

ISE 723 Production Planning, Scheduling and Inventory Control

ISE 726 Theory of Activity Networks

ISE 748 Quality Engineering

ISE 754 Logistics Engineering

ISE 861 The Design of Production Systems

### Systems Analytics and Optimization

ISE 501 Introduction to Operations Research

ISE 505 Linear Programming

ISE 537 Statistical Models for Systems Analytics in Industrial Engineering

ISE 560 Stochastic Models in Industrial Engineering

ISE 562 Simulation Modeling

ISE 709 Dynamic Programming

ISE 760 Applied Stochastic Models in Industrial Engineering

ISE 761 Queues and Stochastic Service Systems

ISE 762 Stochastic Simulation

ISE 766	Network Flows
ISE 772	Advanced Stochastic Simulation

## Faculty

### Full Professors

Jingyan Dong  
Shu-Cherng Fang  
Yahya Fathi  
Ola Lars Anders Harrysson  
Julie Simmons Ivy  
Russell E. King  
Yuan-Shin Lee  
Maria Esther Mayorga  
Chan S. Nam  
Rohan Ajit Shirwaiker  
Julie Swann  
Reha Uzsoy

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### Associate Professors

Adolfo Escobedo  
Michael G. Kay  
Yunan Liu  
Osman Yalin Ozaltin  
Hong Wan  
Xu Xu

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### Assistant Professors

Karen Boru Chen  
Xiaolei Fang  
Leila Hajibabai Dizaji  
Seyedmohammadhossein Hosseinian  
Jordan Kern  
Benjamin A. Rachunok  
Sara Shashaani  
Renran Tian

Zhuoting Yu

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### Practice/Research/Teaching Professors

Semra Sebnem Ahiska King  
Fred Livingston  
Brandon Mark McConnell  
Nur Ozaltin  
Kanton Tyrone Reynolds  
Christopher Rock  
Michael Spano  
Harvey A. West II

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### Adjunct Professor

Amy Diane Wilson

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### Emeritus Faculty

Mahmoud A. Ayoub  
Richard Harold Bernhard  
Paul Cohen  
Charles Thomas Culbreth Jr.  
Thom Joel Hodgson  
Henry Nuttle  
Richard G. Pearson  
Stephen Dean Roberts  
Ezat Sanli  
Clarence Smith Jr.  
James Reed Wilson  
Richard Wysk  
Robert E. Young