

DOCTOR OF PHILOSOPHY WITH A MAJOR IN INDUSTRIAL ENGINEERING - SYSTEM INFORMATICS & CONTROL TRACK

Code	Title	Credit Hours
Domain Core		
ISYE 6810	Systems Monitoring and Prognostics	3
ISYE 7201	Production and Service Systems Engineering	3
ISYE 7204	Informatics in Production & Service Systems	3
Methods Core		
Select three of the following:		9
ISYE 6661	Linear Optimization	
ISYE 6761	Stochastic Processes I	
ISYE 7406	Data Mining and Statistical Learning	
ECE 6550	Linear Systems and Controls	
Methods Breadth		
Select at least three courses from at least two of the areas:		9
Stochastics and Simulation		
ISYE 6644	Simulation	
ISYE 6831	Advanced Simulation	
ISYE 6656	Queuing Theory	
ISYE 6762	Stochastic Processes II	
Statistics		
ISYE 6402	Time Series Analysis	
ISYE 6405	Statistical Methods for Manufacturing Design and Improvement	
ISYE 6412	Theoretical Statistics	
ISYE 6413	Design and Analysis of Experiments	
ISYE 6420	Introduction to Theory and Practice of Bayesian Statistics	
ISYE 7401	Advanced Statistical Modeling	
ISYE 7405	Multivariate Data Analysis	
ECE 6555	Optimal Estimation	
Computing and Algorithms		
ISYE 6679	Computational Methods in Optimization	
ISYE 6416	Computational Statistics	
Dynamics and Control		
ECE 6559	Advanced Linear Systems	
ECE 6552	Nonlinear Systems and Control	
ECE 6553	Optimal Control and Optimization	
ECE 6554	Adaptive Control	
ECE 6551	Digital Control	
ECE 6556	Intelligent Control	
ECE 6120	Automata Theory	
ME 6401	Linear Control Systems	
ME 6402	Nonlinear Control Systems	

ME 6443	Variational Methods in Engineering	
ME 6403	Digital Control Systems	
ME 6404	Advanced Control System Design and Implementation	
Optimization		
ISYE 6664	Stochastic Optimization	
ISYE 6662	Discrete Optimization	
ISYE 6663	Nonlinear Optimization	
Elective		
Approved Methodology Course		
Seminar		
ISYE 8014	Contemporary Topics in System Informatics and Control	1
Applications		
Select at least one of the following:		3
ISYE 6201	Manufacturing Systems	
ISYE 6202	Warehousing Systems	
ISYE 6203	Transportation and Supply Chain Systems	
ECE 6557	Manufacturing Systems Design	
ME 6222	Manufacturing Processes and Systems	
ME 6223	Automated Manufacturing Process Planning	
ME 6225	Metrology and Measurement Systems	
ME 6754	Engineering Database Management Systems	
Total Credit Hours		31

It is recommended that students complete the domain and methods core courses before they sit for the comprehensive examination.

A student is not admitted to candidacy until all of the stated course requirements in the Program of Study have been completed.