UNIVERSITY OF WISCONSIN MILWAUKEE

Connected Systems Engineering MS Program of Study Form

Student Name (Please Print): _____ Campus ID number: _____

Student UWM Email: _____ Student's Faculty Advisor: _____

The program consists of 18 credits of required core courses, 3 credits of the capstone completion course, 1 credit of writing effectiveness (total of 22 credits) and 9 credits of elective courses from a one or a mix of several focus areas

Core Courses Required (22 Credits)

Course Number	Title	Cr	Semester
IND ENG 540G	Foundations of Systems Engineering	3	
IND ENG 555G	Manufacturing Systems Integration	3	
IND ENG 715	Data Acquisition and Visualization for Decision Making	3	
IND ENG 716	Engineering Statistical Analysis	3	
IND ENG 741	Foundational Technologies for Connected Systems	1	
IND ENG 742	Cloud Architecture for Connected Systems	1	
IND ENG 999	Advanced Independent Study	3	
BUS ADM 788	Tracking and Tracing	1	
BUS ADM 811	Process and Work-Flow Management	3	
EAS 701	Effective Academic Writing	1	

Technical Electives (Pick 9 credits from one or a mix of the focus areas on the attached list)

Course Number	Title	Cr	Semester

Student Signature: _____ Date: _____

Advisor's Signature/Approval: _____ Date: _____

Graduate Programs Office Approval: _____ Date: _____

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Technical Electives (Pick 9 credits from one or a mix of the following focus areas)

Industrial Engineering Focus	
IND ENG 455G	Operations Research I
IND ENG 465G	Operations Research II
IND ENG 475G	Simulation Methodology
IND ENG 571G	Quality Control
IND ENG 575G	Design of Experiments
IND ENG 717	Operations Research in Engineering Management
IND ENG 765	Operations Research Methods
IND ENG 777	Scheduling and realtime resource management
IND ENG 890	Advanced Topics in Industrial and Systems Engineering[1]

Manufacturing Engineering Focus	
IND ENG 550G	Control of Automated Manufacturing Systems
IND ENG 572G	Reliability Engineering
IND ENG 587G	Lean Production Systems
IND ENG 751	Flexible Manufacturing Systems
IND ENG 890	Advanced Topics in Industrial and Systems Engineering[1]

Enterprise Resource Planning Focus	
BUSMGMT 733	Enterprise Simulation Game
BUS ADM 781	Enabling Supply Chains Using SAP
BUS ADM 816	Business Intelligence Technologies & Solutions
BUS ADM 818	Information Systems Practicum

Digital Supply Chain Management Focus	
BUS ADM 782	Supply Chain Technology and Simulation
BUS ADM 783	Modeling and Analytics in Supply Chains
BUS ADM 787	Managing Connected Supply Chains
BUS ADM 789	Service Operations Management
IND ENG 890	Advanced Topics in Industrial and Systems Engineering[1]

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Mechatronics/Robotics/Digital Twin Focus	
MECHENG 476G	Introduction to Robotics
MECHENG 479G	Advanced Mechatronics
MECHENG 733	Sensors and Systems
COMPSCI 725	Robot Motion Planning
COMPSCI 746	
IND ENG 890	Advanced Topics in Industrial and Systems Engineering[1]

AI/Machine Learning Focus	
COMPSCI 425G	Introduction to Data Mining
COMPSCI 710	Artificial Intelligence
COMPSCI 711	Introduction to Machine Learning
COMPSCI 715	Programming for Machine Learning
INFOST 582G	Introduction to Data Science

Cybersecurity Focus	
COMPSCI 469G	Introduction to Computer Security
INFOST 583G	Survey of Information Security
INFOST 695G	Ethical Hacking I
INFOST 696G	Ethical Hacking II
INFOST 784	Information Security Management
IND ENG 890	Advanced Topics in Industrial and Systems Engineering[1]

[1]Qualifying topics include Global Supply Chain and Sustainable Technologies: Social and Ethical Impacts.

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