

MASTER OF SCIENCE IN SYSTEMS ENGINEERING

Graduates of the Master of Science in Systems Engineering are capable of designing and managing complex multidisciplinary engineering systems with a rigorous systems engineering approach. The research component of the thesis- and project-based M.S. programs equip students with cutting edge skills in specific focus areas, preparing them for future career opportunities.

Plan A Effective Fall 2020

Code	Title	Credits
Core Requirements		
Select 5 courses from the following:		15
ECE 565/ ENGR 565	Electrical Power Engineering	
ECE 566	Grid Integration of Wind Energy Systems	
ENGR 502	Engineering Project and Program Management	
or CIS 600A or CIS 670	Project Management: Information Technology Advanced IT Project Management	
ENGR 510	Engineering Optimization: Method/ Application	
ENGR 520	Engineering Decision Support/Expert Systems	
ENGR 531	Engineering Risk Analysis	
ENGR 570	Coupled Electromechanical Systems	
MECH 513	Simulation Modeling and Experimentation	
SYSE 501	Foundations of Systems Engineering	
SYSE 530	Overview of Systems Engineering Processes	
SYSE 532/ ECE 532	Dynamics of Complex Engineering Systems	
SYSE 567	Systems Engineering Architecture	
SYSE 569	Cybersecurity Awareness for Systems Engineers	
SYSE 571	Analytics in Systems Engineering	
SYSE 602	Systems Requirements Engineering	
SYSE 603	Introduction to Systems Test and Evaluation	
SYSE 667	Advanced Model-Based Systems Engineering	
Technical Electives ¹		6
Thesis		
SYSE 699	Thesis	9
Program Total Credits:		30

A minimum of 30 credits are required to complete this program.

¹ Select 6 credits with approval by student's advisory committee. A maximum of 6 credit hours are permitted at the 400-level. The remainder must be at the 500-level or above.

Plan B Effective Fall 2020

Code	Title	Credits
Core Requirements		
Select 5 courses from the following:		15
ECE 565/ ENGR 565	Electrical Power Engineering	
ECE 566	Grid Integration of Wind Energy Systems	
ENGR 502	Engineering Project and Program Management	
or CIS 600A or CIS 670	Project Management: Information Technology Advanced IT Project Management	
ENGR 510	Engineering Optimization: Method/ Application	
ENGR 520	Engineering Decision Support/Expert Systems	
ENGR 531	Engineering Risk Analysis	
ENGR 570	Coupled Electromechanical Systems	
MECH 513	Simulation Modeling and Experimentation	
SYSE 501	Foundations of Systems Engineering	
SYSE 530	Overview of Systems Engineering Processes	
SYSE 532/ ECE 532	Dynamics of Complex Engineering Systems	
SYSE 567	Systems Engineering Architecture	
SYSE 569	Cybersecurity Awareness for Systems Engineers	
SYSE 571	Analytics in Systems Engineering	
SYSE 602	Systems Requirements Engineering	
SYSE 603	Introduction to Systems Test and Evaluation	
SYSE 667	Advanced Model-Based Systems Engineering	
Technical Electives ¹		12
Research		
SYSE 695	Independent Study ²	3
Program Total Credits:		30

A minimum of 30 credits are required to complete this program.

¹ Select 6 credits with approval by student's advisory committee. A maximum of 6 credit hours are permitted at the 400-level. The remainder must be at the 500-level or above.

² Complete SYSE 695 or select a comparable course with a minimum of 3 credits with approval of graduate advisor.