

PH.D. IN SYSTEMS ENGINEERING

The Ph.D. in Systems Engineering prepares students to become leaders in systems engineering. Throughout the program, students produce significant academic contributions, in terms of original research, to the field. These contributions drive advancements and lead to improvements in energy efficiency, environmental impact, cybersecurity, and economic growth, among other areas of application for systems engineering.

Requirements Effective Fall 2020

Code	Title	Credits
Core Requirements		
Select 7 courses from the following:		21
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	Project Management: Information Technology	
or CIS 670	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		18
Research		
SYSE 799A	Dissertation: PhD ²	33
Program Total Credits:		72

A minimum of 72 credits are required to complete this program.

¹ Select 18 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 3 credit hours of SYSE 795 may be used by students who have had their Ph.D. research, which was performed while enrolled at CSU, accepted for publication (completely or with minor revisions) in at least two peer-reviewed journal or conference publications may fill out a form listing citations and validating documentation and have the form approved by the student's Ph.D. committee.