

SYSTEMS ENGINEERING (PH.D.)

Degree Requirements

(67 Credit Hours)

Case 1: With Engineering Bachelor's Degree Only

Code	Title	Hours
SE 601	Systems Eng Fundamentals	3
SE 606	Systems Architecture	3
SE 603	Integration, Test & Evaluation	3
SE 602	Risk and Failure Analysis	3
SE 609	Engineering Research Methods	3
Systems Engineering Elective		3
Other Systems Engineering or Engineering Electives		at least 30
Research Hours		at least 19
Responsible Conduct of Research RCR Training from CITI Program		0
Total credit hours required for completion:		at least 67

Case 2: With STEM Bachelor's Degree (Other Than Engineering)

Code	Title	Hours
Pre-requisite undergraduate courses to be determined at the time of admission. It is highly recommended that the applicant has taken at least three semesters of calculus and a college-level physics course.		
SE 601	Systems Eng Fundamentals	3
SE 606	Systems Architecture	3
SE 603	Integration, Test & Evaluation	3
SE 602	Risk and Failure Analysis	3
SE 609	Engineering Research Methods	3
Systems Engineering Elective		3
Other Systems Engineering or Engineering electives		at least 30
Research Hours		at least 19
Responsible Conduct of Research RCR Training from CITI Program		0
Total credit hours required for completion:		at least 67

Case 3: With Engineering Master's Degree

Code	Title	Hours
Engineering Master's degree transfer credits to be determined at the time of admission		
SE 601	Systems Eng Fundamentals	3
SE 606	Systems Architecture	3

SE 603	Integration, Test & Evaluation	3
SE 602	Risk and Failure Analysis	3
SE 609	Engineering Research Methods	3
Systems Engineering Electives		9-3
Research Hours		at least 19
Responsible Conduct of Research RCR Training from CITI Program		0
Total credit hours required for completion:		at least 67

Case 4: With STEM Master's Degree (Other Than Engineering)

Code	Title	Hours
Engineering Master's degree transfer credits to be determined at the time of admission		
SE 601	Systems Eng Fundamentals	3
SE 606	Systems Architecture	3
SE 603	Integration, Test & Evaluation	3
SE 602	Risk and Failure Analysis	3
SE 609	Engineering Research Methods	3
Systems Engineering Electives (total transfer credits to be determined at the time of admission)		TBD
Research Hours		at least 19
Responsible Conduct of Research RCR Training from CITI Program		0
Total credit hours required for completion:		at least 67

Required Examinations

The required examinations in the Systems Engineering Ph.D. program have two parts; each has a written component and an oral component. The examinations are:

- Qualifying Examination: Written and Oral
- Proposal Defense – Written and Oral: The Proposal Defense document must be made available to the Doctoral Advisory Committee at least two weeks before the scheduled defense. Feedback on the Proposal Defense will be given to the student by his/her Doctoral Advisor within seven days of its completion. To pass the Proposal Defense, a degree candidate must have a favorable vote from a majority of the Doctoral Advisory Committee, with at most a single negative vote. If the student does not pass the Proposal Defense, he/she has the option to complete the requirements for the Master's degree and exit the Doctoral program, or schedule a second Defense within one semester while remedying deficiencies noted in the first Defense. Students failing the Defense twice will be dismissed from the Doctoral program without the option to complete a Master's degree.
- Dissertation Defense – Written and Public Oral: As for the Proposal Defense requirements, if the student does not pass the final Dissertation Defense, he/she has the option to complete the requirements for the Master's degree or to schedule a second Defense within one semester while remedying deficiencies noted in the first Defense. Students failing the Defense twice will be dismissed

from the Doctoral program without the option to complete a Master's degree.