



College of Engineering and Science

Systems Engineering Graduate Certificate

Program Summary

The Graduate Certificate in Systems Engineering (SE) is designed to teach students how to conceptualize, analyze and develop complex products and processes. Program participants will gain new technical abilities ranging from architectural composition to detailed system analysis. Emphasis will be on complex products such as automobiles and transportation systems.

The courses include: Systems Architecting which emphasizes holistic comprehension of complex problems and customer-focused alternatives, Systems Engineering and Systems Optimization which are applied to systems development, and Systems modeling language which leads to integration strategies. Electives will be available for students to practice SE in a field of their choosing.

Admission Requirements:

Students will be required to have background experience in technical development projects or programs. Applicants must have a minimum of an undergraduate degree in Science, Technology, Engineering or Math (STEM) and at least three years of industrial experience, research experience or permission of the Program Director. Students may enter the program in any semester and can take courses at their desired pace.

Certificate Requirements:

The SE certificate requires 15 credit hours beyond the baccalaureate degree: 12 credit hours in SE core courses, 3 credits selected from a list of technical electives related to SE.

Systems Engineering Courses

Core Courses:

MPD 5050:	Systems Architecture	3 cr. hrs.
MPD 5300:	Systems Optimization	3 cr. hrs.
MPD 5100:	Systems Engineering	3 cr. hrs.
MENG 5925:	Modeling of Complex Systems	3 cr. hrs.

Electives (*Terms vary based on student demand*)

MPD 5750	Design for “X” (DFX)	3 cr. hrs.
MPD 5500:	Operations Management	3 cr. hrs.
MPD 5600:	Product Planning and Development (Elective)	3 cr. hrs.

Other courses – by Permission of the SE Director

For more information, please visit: eng-sci.udmercy.edu/academics/engineering/systems-engineering

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