

**MSysE Program Outcomes**

**Program Outcome 1: Systems Thinking**

Students will understand systems concepts, including the relations among subsystems; will understand the needs of the super-system and their impact on system development; and will understand how the business (enterprise) and technology environment influences system development and its effect on its operating and social environment.

**Program Outcome 2: Holistic Lifecycle View**

Students will understand the coordination of system life cycle activities and the concurrent development of systems elements; will be able to incorporate the timely integration of both enterprise functions and system specialties into a system’s development; will be able to employ a life cycle process for a given system; and will be able to select appropriate systems engineering planning, monitoring and controlling, and the logistics and operations methods to effect robust system development and implementation.

**Program Outcome 3: System Design**

Students will understand and be able to apply different types of system architectures; will be able to evaluate alternatives in developing system concepts; will understand the need for designing for a system’s life cycle; and will be able to develop the processes for validating and verifying a system’s design and transition to operation.

**Program Outcome 4: Systems Engineering Management**

Students will understand the coordination of system life cycle activities and the concurrent development of systems elements; will be able to incorporate the timely integration of both enterprise functions and system specialties into a system’s development; will be able to employ a life cycle process for a given system; and will be able to select appropriate systems engineering planning, monitoring and controlling, and the logistics and operations methods to effect robust system development and implementation.

**MSYSE CORE CURRICULUM MAP - 3/2014**

*Intensity level (I = Introduced, P = Practiced, M= Mastered). Students must complete at least one 'I' associated with a particular outcome before moving on to a 'P' skill; must complete at least one 'P' associated with a particular outcome before moving on to an 'M' skill.*

	Outcome 1	Outcome 2	Outcome 3	Outcome 4
SYSE 500 Introduction to Systems Engineering	I	I	I	
SYSE 530 System Requirements Analysis and Modeling	P	P	P	I
SYSE 560 Introduction to Systems Engineering Management	P	P	I	P
<b>Technical Track:</b> SYSE 610 System Architecture Design and Modeling	M	M	M	
SYSE 625 System Quality Assurance	P	P	P	I
<b>Management Track:</b> SYSE 660 Organizational Systems Management		M		M
SYSE 697 Systems Engineering Capstone Project	M	M	M	M

COURSE	SUGGESTED PREREQUISITE
500	None
530	500
560	Either 530 or 625
610	Either 530 or 625
625	500
660	560
697	Must be enrolled in MSysE program; Capstone Project must be final course towards degree