Graduate Programs in
SYSTEMS ENGINEERING

UMBC

Master of Science:
Systems Engineering

Post-Baccalaureate Certificate:
Systems Engineering

Systems Engineering - a professionally-focused and relevant graduate degree

» Discover how to develop systems that meet customer requirements while navigating the complexities of system design.

» Explore the entire systems engineering life cycle, including requirements analysis, systems architecture and design, modeling, simulation and analysis, and system implementation and test.

» Learn to lead systems engineering teams.

When you choose UMBC Professional Programs, you can count on:

» Courses developed and taught by industry experts and designed to address real-world problems encountered in designing systems.

» Flexible evening class schedule that accommodates working professionals.

» Wide-ranging resources offered at a top-notch public research university.

Why UMBC?

» UMBC provides a comprehensive and quality education at a manageable cost.

» The 2017 *U.S. News & World Report Best Colleges* guide ranks UMBC in the top five on its closely-watched Most Innovative Schools list and has recognized UMBC as a global leader in higher education.

» UMBC is classified by the Carnegie Foundation as a Research University (High Research Activity).

» UMBC is uniquely positioned to provide education and training that respond to the state's need for qualified technical professionals in the engineering field.

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se.umbc.edu

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Master's Program
Master of Science (M.S.): Systems Engineering
30 Credits (10 courses)

Systems Engineering Required Core Courses (18 Credits)

SYST 660: Systems Engineering Principles
SYST 661: System Architecture and Design
SYST 662 (*) (**): System Modeling, Simulation, and Analysis
SYST 663: System Implementation, Integration, and Test
SYST 670: Systems Engineering Project
SYST 672: Decision and Risk Analysis

Systems Engineering Electives (12 credits)

ENMG 668: Project and Systems Engineering Management	ENMG 659: Strategic Management
ENMG 652: Management, Leadership and Communication	SYST 664: Advanced System Architecture
ENMG 654: Leading Teams and Organizations	SYST 673: Advanced Systems Engineering Processes (2 credits)
	ENMG 664: Quality Engineering and Management
	SYST 669: Mathematics and MATLAB fundamentals (1 credit)
	SYST 691: Topics in Systems Engineering

Students are urged to confer with the Systems Engineering Program Director for selection of elective courses to ensure that graduation requirements are met.

Other Engineering, Computer Engineering, Computer Science, Information Systems, and Health IT Courses

Certificate Program
Post-Baccalaureate Certificate: Systems Engineering
4 Required Courses (12 Credits)

SYST 660: Systems Engineering Principles	SYST 663: System Implementation, Integration, and Test
SYST 661: System Architecture and Design	
SYST 662 (*) (**): System Modeling, Simulation, and Analysis	SYST 669: Mathematics and MATLAB Fundamentals for Engineers
OR	
SYST 672: Decision and Risk Analysis	

Please consult se.umbc.edu for schedule.

(*) SYST 662 has a prerequisite of either passing SYST 669 or testing out of the class. See the instructor for details. SYST 669 is a one credit course.

(**) Students enrolled in the Masters program for Electrical Engineering or Computer Science must take SYST 662.