Graduate Programs in SYSTEMS ENGINEERING





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 in the workplace.
- » Programs that combine practical business approach with in-depth technical courses plus an emphasis on how to lead people and manage complex projects.
- » 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.
- » For six years running, UMBC was ranked #1 in the U.S. New and World Report's list of 'national upand-coming' universities, and in 2015 ranked #4 as 'most innovative schools.'
- » 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.



Admission Requirements M.S. and Graduate Certificate:

- » A bachelor's degree in Engineering, Computer Science or Information Systems.
- » Minimum undergraduate GPA of 3.0 on a 4.0 scale
- » Letters of recommendation and GRE scores are not required for applicants with a degree from an accredited U.S. institution.

International Applicants:

Please visit <u>umbc.edu/se/international</u> for detailed admissions requirements for international applicants.

» Please pay special attention to English proficiency and testing requirements

Admission Deadlines

Fall: August 1
Spring: December 1

For detailed application process please visit: <u>umbc.edu/se</u>

Office of Professional Programs

UMBC's Office of Professional Programs offers a broad array of professionally focused master's degree and certificate programs that address industry needs while anticipating future opportunities. umbc.edu/professionalprograms

Master's Program

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

Systems Engineering Required Core Courses (18 Credits)

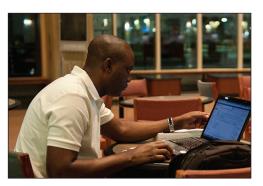
ENEE 660: Systems Engineering Principles ENEE 661: System Architecture and Design

ENEE 662: System Modeling, Simulation, and Analysis

ENEE 663: System Implementation, Integration, and Test

ENEE 670: Systems Engineering Project

ENEE 672: Decision and Risk Analysis



Technical Breadth Courses (No More Than 9 Credits)

ENMG 668: Project and Systems Engineering Management

ENMG 652: Management, Leadership and Communication

ENMG 654: Leading Teams and Organizations

ENGM 659: Strategic Management

CYBR 621: Cyber Warfare

CYBR 622: Global Cyber Capabilities and Trends

CYBR 623: Cybersecurity Law and Policy

Technical Depth Courses (At Least 3 Credits)

ENEE 664: Advanced System Architecture

ENEE 666: Architecting Security

ENEE 667: Advanced Systems Engineering Processes (2 credits)

ENMG 664: Quality Engineering and Management

ENEE 669: Mathematics and MATLAB fundamentals (1 credit)

CYBR 620: Introduction to Cybersecurity
CMPE 685: Introduction to Communications

Networks

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

Students are urged to confer with the Systems Engineering Program Director, Dr. Thomas Moore (mooretg@umbc.edu) for selection of elective courses to ensure that graduation requirements are met.

Certificate Program

Post-Baccalaureate Certificate: Systems Engineering 5 Required Courses (15 Credits)

OPTION A ENEE 660: Systems Engineering Principles ENEE 661: System Architecture and Design ENEE 662: System Modeling, Simulation, and Analysis ENEE 663: System Implementation Integration, and Test

ENEE 670: Systems Engineering Project

<u>OPTION B</u>

ENEE 660: Systems Engineering Principles

ENEE 661: System Architecture and Design

ENEE 663: System Implementation, Integration, and Test

ENEE 672: Decision and Risk Analysis

ENEE 670: Systems Engineering Project

Please consult umbc.edu/se for schedule.