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.
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

» GRE scores are not required

» Letters of recommendation are not required for applicants with a degree from accredited U.S. institution

International Applicants:

Please visit se.umbc.edu/international 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: se.umbc.edu

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)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ENMG 668</td>
<td>Project and Systems Engineering Management</td>
</tr>
<tr>
<td>ENMG 652</td>
<td>Management, Leadership and Communication</td>
</tr>
<tr>
<td>ENMG 654</td>
<td>Leading Teams and Organizations</td>
</tr>
<tr>
<td>ENMG 659</td>
<td>Strategic Management</td>
</tr>
<tr>
<td>SYST 664</td>
<td>Advanced System Architecture</td>
</tr>
<tr>
<td>SYST 673</td>
<td>Advanced Systems Engineering Processes (2 credits)</td>
</tr>
<tr>
<td>ENMG 664</td>
<td>Quality Engineering and Management</td>
</tr>
<tr>
<td>SYST 669</td>
<td>Mathematics and MATLAB fundamentals (1 credit)</td>
</tr>
<tr>
<td>SYST 691</td>
<td>Topics in Systems Engineering</td>
</tr>
</tbody>
</table>

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

Certificate Program

Post-Baccalaureate Certificate: Systems Engineering

4 Required Courses (12 Credits)

<table>
<thead>
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<th>Course Code</th>
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<tr>
<td>SYST 660</td>
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<tr>
<td>SYST 666</td>
<td>System Implementation, Integration, and Test</td>
</tr>
<tr>
<td>SYST 669</td>
<td>Mathematics and MATLAB Fundamentals for Engineers</td>
</tr>
</tbody>
</table>

(*) 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.

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.

professionalprograms.umbc.edu

This academic program is a participant in the U.S. Department of Education Gainful Employment program.

For more information, https://gradschool.umbc.edu/resources/careers/gainfulemploy/