

GLOBAL INNOVATION AND LEADERSHIP THROUGH ENGINEERING, MASTER OF SCIENCE

<https://msil.engineering.jhu.edu/>

The Master of Science in Global Innovation and Leadership through Engineering (MSIL) degree program is designed to provide students with the skills and knowledge necessary to drive innovation and lead teams in a global setting. The program emphasizes the importance of cultural awareness, collaboration, and problem-solving in the development of new ideas and technologies. In addition to core coursework in leadership and innovation, students in the program will choose from one of several technical tracks, including data science, cybersecurity, systems engineering, engineering management, environmental planning and management, and healthcare systems engineering. These tracks will allow students to specialize in a specific area of interest and gain expertise in the tools and techniques needed to succeed in their chosen field.

Throughout the program, students will have the opportunity to work on real-world projects and case studies, applying their knowledge and skills in a practical setting. They will also have access to a network of industry professionals and experts who can provide guidance and support as they develop their careers. Upon graduation, students will be prepared to take on leadership roles in a variety of sectors, including technology, healthcare, engineering, and environmental planning. With a Master's degree in Global Innovation and Leadership through Engineering, students will be well-equipped to tackle the complex challenges of the 21st century and drive positive change in their organizations and communities.

Degree Requirements

Please consult directly with the MSIL program director to confirm the below requirements; changes may have occurred since this annual publication.

Students in the MSIL program take the following to fulfill degree requirements:

- Six advanced courses in the engineering technical track (18 credits, with a minimum of 3 credits per course).
- Ten courses in the management track, including two half-semester electives.
- No grades lower than C may be applied to the degree; only one grade under B- may be counted toward the degree.
- Courses must be at the graduate level (600-level or higher).
- Departments sponsoring technical tracks may impose stricter requirements for course work within the track.
- All graduate students must successfully complete both the Graduate Academic Ethics course and the Responsible Conduct of Research course. Students should check with their advisor about which version of the Responsible Conduct of Research course they should take. These courses do not count towards the degree requirements above.

Advising

MSIL students will receive advising on the technical track from a designated faculty member affiliated with that track. MSIL students will be advised regarding the management track by members of the Center for Leadership Education faculty.

Faculty

Faculty members teaching the technical track courses are listed in their respective engineering departments elsewhere in this catalogue. Faculty members teaching the management track courses are listed in the Center for Leadership Education section of this catalogue.

Program Requirements

Management Track

All Master of Science in Global Innovation and Leadership through Engineering students will participate in a management track, which requires completion of the following courses:

Code	Title	Credits
Required Management Courses		
EN.663.653	Innovation and Design I	1.5
EN.663.658	Innovation and Design I - Discussion	1.5
EN.663.657	Innovation and Design II	3
EN.662.645	Management and Global Team Leadership	1.5
EN.662.611	Strategies: Accounting & Finance	3
EN.663.642	Global Innovation IP Protection	1.5
EN.663.712	MSIL Internship Preparation	1.5
EN.662.680	Foundations in Communication and Ethics	1.5
Credits		15

Students must also complete 2 of the following half-semester electives:

Code	Title	Credits
Electives (Select 2)		
EN.663.614	Leading Teams Through Crisis	1.5
EN.663.645	Improving Presentation Skills for Graduate Students	1.5
EN.663.660	Managing People and Resolving Conflicts	1.5
EN.663.670	Project Management	1.5
EN.663.671	Leading Change	1.5
EN.663.708	Strategies for New Managers	1.5
EN.663.710	Data-informed Strategy and Visualization	1.5
EN.663.711	AI Project Management	1.5
Credits		3

The Global Innovation and Leadership through Engineering program reserves the right to change the list of eligible courses at its discretion.

Technical Tracks

In addition to fulfilling the management track requirements, MSIL students must complete the requirements for one of the technical tracks (6 courses, 18 credits total/3 credits per course). Depending on the student's academic background, they may be required to complete prerequisites in order to enroll in the required courses in their chosen technical track. Technical Tracks do not appear on the transcript or diploma. These are:

- Cybersecurity Track - MS in Global Innovation and Leadership through Engineering (<https://msil.engineering.jhu.edu/cybersecurity-track/>)
- Data Science Track - MS in Global Innovation and Leadership through Engineering (<https://msil.engineering.jhu.edu/data-science-track/>)
- Engineering Management Track - MS in Global Innovation and Leadership through Engineering (<https://msil.engineering.jhu.edu/engineering-management-track/>)
- Environmental Planning and Management Track - MS in Global Innovation and Leadership through Engineering (<https://msil.engineering.jhu.edu/environmental-planning-and-management-track/>)
- Healthcare Systems Engineering Track - MS in Global Innovation and Leadership through Engineering (<https://msil.engineering.jhu.edu/healthcare-systems-engineering-track/>)
- Systems Engineering Track - MS in Global Innovation and Leadership through Engineering (<https://msil.engineering.jhu.edu/systems-engineering-track/>)

Please note: the course requirements linked above are a general guide and are subject to change. For degree requirements, please refer to the technical track advisor. Refer to the website (<https://msil.engineering.jhu.edu/academics/technical-track/>) for more information.