The importance of designing, deploying and protecting information technologies that withstand cyber security challenges can’t be overstated. The MITS program develops not only essential technical expertise, but critical situational problem-solving and decision making skills as well.

The Master of Information Technology Strategy (MITS) is a three-semester, full-time campus program with an optional one-semester extension. Its curriculum consists of five components: core coursework, an area of concentration, elective courses, the Seminar, and the Project.

The rapidly evolving landscape of technology and related cyber challenges requires an understanding of network and cyber operations, data analytics and forensics, cyber security, decision science, politics and strategy, international security, and the ability to apply best practices to solutions. The Master of Information Technology Strategy (MITS) program seeks to produce leaders with the critical thinking skills and strategic perspective needed to solve challenges within the information and cyber domains. With faculty, research centers, and degree programs of international renown, the program leverages Carnegie Mellon's broad expertise in the critical areas of cyber security and information dominance, drawing from CMU’s Carnegie Institute of Technology, Dietrich College of Humanities and Social Sciences, and School of Computer Science.

Cyberwarfare and emerging technologies proliferate at a frenetic pace, affording most students the opportunity to study these subjects at the tactical level. While this can provide a valuable viewpoint, it is ultimately myopic. What the MITS program allows students to do is to step back and consider all of these important developments in a strategic context, through campus-wide talks with globally recognized thought leaders, in-depth seminars with subject matter experts, and through a rigorously developed project that promoted teamwork and engagement on real-life, practical policy issues.

Through an array of exciting elective courses, students can strategically tailor the program to align with their personal and professional goals, while simultaneously harnessing the strengths of Carnegie Mellon's interdisciplinary nature and application of public policy and decision science to intractable global challenges.

Dr. Baruch Fischhoff
MITS Executive Board Member
Howard Heinz University Professor,
Institute for Politics and Strategy
Carnegie Mellon University

CMU.EDU/MITS
Master of Information Technology Strategy
Program Characteristics

Unique Program Features

Seminar: The Seminar provides students with an opportunity to broaden their understanding of cyber security and information dominance. As a global leader in technology and strategy, Carnegie Mellon hosts military and civilian leaders for campus-wide talks and in-depth seminars in the MITS program.

Project: The Project promotes team-based engagement on a real-world problem related to cyber security and information dominance. Information on past projects can be found at the MITS website (www.cmu.edu/mits).

Concentration Areas: MITS focuses on four thematic areas collectively spanning disciplines that are essential in developing astute, knowledgeable, and practiced leaders in cyber security and information dominance.

Elective Courses
Elective courses allow students to explore a concentration area in greater depth or to pursue topics outside of their concentration. With more than 45 elective courses spanning the concentration areas, students can strategically tailor the program to align with their personal and professional goals.

Concentration Areas

Information Security
An understanding of cyber threats and the mitigation of their impact ensures that program graduates are equipped to address the dangers of cyber attacks.

Courses include:
- Introduction to Computer/Network Security and Applied Cryptography
- Secure Software Engineering
- Applied Information Assurance
- Information Security Risk Management • Secure Software Systems

Data Analytics
To be successful, tomorrow’s leaders in Information Domination must be proficient in extracting knowledge from large data systems. Such extraction requires mastery in techniques such as machine learning, social network analysis, and large-scale data reduction and filtering.

Courses include:
- Machine Learning in Practice
- Dynamic Network Analysis
- Very Large Information Systems
- Information Retrieval • Multimedia Databases and Data Mining

Politics and Strategy
The ability to demonstrate sound reasoning about policy and strategy is an invaluable skill for individuals who will shape the future of IT strategy.

Courses include:
- Concepts of War and Cyber War
- Diplomacy and Statecraft
- Grand Strategy in the United States
- Social Media, Technology, and Conflict
- Technology and Policy of Cyber War
- The Future of Warfare

Software and Networked Systems
An understanding of system and software architecture is essential for the management of safe, secure, and reliable information infrastructures.

Courses include:
- Architectures for Software Systems
- Distributed Systems
  - Packet Switching and Computer Networks
- Mobile and Pervasive Computing Systems Architecture for Managers

To learn more, visit us at www.cmu.edu/mits or contact Anthony Lattanze (lattanze@cs.cmu.edu)

The Masters of Software Engineering Professional Programs are a proud part of:

Carnegie Mellon University
School of Computer Science