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.

Master of Information Technology Strategy

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.

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

### 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 Dominance 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
- Policies of Wireless Systems and the Internet
- Technology and Policy of Cyber War
- The Future of Warfare: Cyber, Violent Non-State Actors, and Conflict in the “Grey Zone”

**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

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To learn more, visit us at [www.cmu.edu/mits](http://www.cmu.edu/mits) or contact David Root (droot@andrew.cmu.edu)

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