Masters of Information Technology Strategy (MITS)
Plans of Study

Requirements for graduation:

**Option 1: 3-Semester Program, 120 units total**
Students must complete:
- 48 units total of core courses, 12 units from each of the concentration tracks:
  - Data Analytics
  - Politics and Strategy
  - Information Security
  - Software and Network Systems
- 24 units (minimum) of concentration courses
- 6 units of MITS Seminar
- 30 units of MSIT/MITC project
- 12 units (minimum) of free elective, which must be approved and in MITS genre

Please note:
- All core courses and concentration courses must be completed by the end of the spring semester.
- Core courses can also be used for concentration course requirements.

**Option 2: 4-Semester Program, 156 units total**
Students must complete all of the above, plus:
- 36 units of free electives, which must be approved and in MITS genre
Semester may also be used to make-up failed core and concentration classes

**Recommended Coursework Plan by Semester**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
<th>Summer Semester</th>
<th>Fall Semester (Optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Security Core Course (12 units)</td>
<td>Software and Network Systems Core Course (12 units)</td>
<td>MSIT/MITC Project (24 units)</td>
<td>Approved Elective (12 units)</td>
</tr>
<tr>
<td>Data Analytics Core Course (12 units)</td>
<td>Concentration Course (12 units)</td>
<td></td>
<td>Approved Elective (12 units)</td>
</tr>
<tr>
<td>Politics and Strategy Core Course (12 units)</td>
<td>Concentration Course or Approved Elective (12 units)</td>
<td></td>
<td>Approved Elective (12 units)</td>
</tr>
<tr>
<td>MITS Seminar (3 units)</td>
<td>MITS Seminar (3 units)</td>
<td>Optional Approved Elective (12 units)</td>
<td>Approved Elective (12 units)</td>
</tr>
<tr>
<td>Introduction to Computer Systems elective or Concentration Course (12 units)</td>
<td>MSIT/MITC Project (6 units)</td>
<td></td>
<td>Approved Elective (12 units)</td>
</tr>
<tr>
<td></td>
<td>Optional Approved Elective (6 units)</td>
<td></td>
<td>Approved Elective (12 units)</td>
</tr>
</tbody>
</table>
Core Courses
Core courses establish the necessary background and a common competence level in each of the four thematic areas. Students must take at least one core course option from each of the Concentration areas below, for a total of 48 units minimum.

Data Analytics
- Option 1: 05-834 Applied Machine Learning (fall/spring)
  - (Note: Students in the Data Analytics Concentration may not take 05-834)
- Option 2: 17-685 Dynamic Network Analysis (spring)
- Option 3: 10-601/10-701 Introduction to Machine Learning (fall/spring)
  - (Note: Students may not take both 05-834 and 10-601/701)

Politics and Strategy
- Option 1: 84-605 The Future of Warfare (fall)
- Option 2: 84-687 Technology and Policy of Cyber War (spring)

Information Security
- Option 1: 17-631 Information Security, Privacy, and Policy (fall)
- Option 2: 18-631 Introduction to Information Security (fall)
  - (Note: Students may not take both 17-631 and 18-631.)

Software and Networked Systems
- Option 1: 15-640 Distributed Systems (fall/spring)
- Option 2: 15-641 Computer Networks (fall/spring)
- Option 3: 17-655 Architectures for Software Systems (spring)
  - (Note: Students may not take both 17-638 and 17-655.)
- Option 4:
  17-638 Software Architectures for Managers (spring 2nd half mini)
  - AND
  17-610 Risk Management for Software Intensive Projects (spring 2nd half mini)
  - OR
  95-884 Network Defenses (fall 1st half mini, spring 1st half mini)

  (Note: Students in the Software and Network Concentration may not use 17-638, 17-610 and 95-884 for their core requirement. 17-610 and 95-884 may be used toward concentration requirements.)
Concentration Courses (by category)

Data Analytics (DA)
- 08-741 Data Science (fall)
- 10-605 Machine Learning Large Data Sets (fall)
- 10-703 Deep Reinforcement Learning and Control (fall)
- 10-707 Topics in Deep Learning (spring)
- 10-708 Probabilistic Graphics Models (spring)
- 11-611 Natural Language Processing (fall/spring)
- 11-641 Machine Learning for Text Mining (fall/spring)
- 11-642 Search Engines (fall/spring)
- 11-676 Big Data Analytics (fall)
- 11-731 Machine Translation and Sequence-to-Sequence Models (fall)
- 11-747 Neural Networks for NLP (spring)
- 11-785 Introduction to Deep Learning (fall/spring)
- 15-688 Practical Data Science (spring)
- 15-780 Graduate Artificial Intelligence (spring)
- 16-824 Visual Learning and Recognition (spring)
- 17-649 Artificial Intelligence for Software Engineering (fall/spring)

Politics and Strategy (PS)
- 84-619 U.S. Foreign Policy and Interventions in World Affairs (spring)
- 84-622 Nonviolent Conflict and Revolution (spring)
- 84-625 Contemporary American Foreign Policy (spring)
- 84-662 Diplomacy and Statecraft (fall)
- 84-669 Decision Science for International Relations (fall)
- 84-670 Global Nuclear Politics (fall)
- 84-672 Space and National Security (spring)
- 84-673 Emerging Technologies and the Law (spring)
- 84-680 Grand Strategy in the United States (fall)
- 84-686 The Privatization of Force (fall)
- 84-688 Concepts of War and Cyber War (fall, 6 unit mini)
- 84-689 Terrorism and Insurgency (spring)
- 84-690 Social Media, Technology, and Conflict (spring)
- 84-720 International Security Graduate Seminar (spring)
- 84-736 Analytical Social Science and National Security (fall, 6 unit mini)
- 88-602 Behavioral Decision Making (spring)
- 88-605 Risk Perception and Communication (spring)
- 88-635 Decision Science & Policy (spring)
- 19-701 Intro to the Theory & Practice of Policy (fall)
- 19-711 Global Competitiveness: Firms, Nations, and Technological Change (fall)
- 19-713 Policies of Wireless Systems & the Internet (fall)
- 19-722 Telecommunications, Technology Policy & Management (spring)
**Information Security (IS)**
- 05-836/08-734 Usable Privacy and Security (spring)
- 14-735 Secure coding (spring)
- 14-761 Applied Information Assurance (spring)
- 14-814/ 18-637 Wireless Security (spring)
- 17-631 Information Security, Privacy and Policy (fall)
- 17-632 Engineering Run Time Malware Detection (spring)
- 18-730 (ECE) Introduction to Computer Security (fall prerequisite 15-214)
- 18-731 Network Security (spring, prerequisite 18-730)
- 18-732 Secure Software Systems (spring, prerequisite 18-730)
- 18-733 Applied Cryptography (spring, prerequisite 18-730)
- 18-734 Foundation of Privacy (fall)

**Software and Networked Systems (SN)**
- 11-642 Search Engines (fall/spring)
- 14-740 Fundamentals of Telecommunication Networks (spring)
- 15-618 Parallel Computer Architecture and Programming (fall/spring)
- 15-619 Cloud Computing (fall/spring)
- 16-720 Computer Vision (fall/spring)
- 16-722 Sensing and Sensors (fall)
- 16-761 Mobile Robot Design (spring)
- 17-604 Agile Software Development Frameworks (spring)
- 17-610 Risk Management for Software Intensive Systems (spring)
- 17-611 DevOps: Engineering for Deployment and Operations (fall, summer)
- 17-640 IoT, Big Data, and Machine Learning: A Hands-on Approach (summer)
- 17-645 Software Engineering for AI-Enabled Systems (summer)
- 17-646 Business for Engineers (spring)
- 17-648 Engineering Data Intensive Scalable Systems (summer)
- 17-649 Artificial Intelligence for Software Engineering (fall/spring)
- 17-651 Models of Software Systems (fall)
- 17-652 Methods: Deciding What to Design (fall)
- 17-653 Managing Software Development (fall)
- 17-654 Analysis of Software Artifacts (spring)
- 17-681 Java for Application Programmers (fall/spring)
- 17-683 Data Structures for Application Programmers (fall/spring)
- 18-349 Intro to Embedded Real Time Systems (spring)
- 18-756 Packet Switching & Computer Networks (fall)
- 18-843 Mobile and Pervasive Computing (fall)