MASTER OF SCIENCE IN TRANSPORTATION (MST)

Master of Science in Transportation Program Description
(http://catalog.mit.edu/interdisciplinary/graduate-programs/transportation)

The Master of Science in Transportation (MST) program is based on the premise that a common set of analytical approaches and methodologies can be applied to solve a range of transportation problems. The MST provides a common basis for addressing a wide range of problems while allowing enough flexibility to accommodate students with diverse backgrounds and interests.

Students must complete a program of coursework, plus a research-based master's thesis on a topic of their choosing approved by their thesis supervisor. Coursework includes three required core subjects; one policy, technology, and society subject; a computing/analytics subject; and at least one additional transportation or related subject, all comprising an individually designed program.

Common areas of specialization include systems and optimization (freight and logistics; vehicles and energy; networks and systems; public transport; emerging mobility; and air transport), analytics and computation (big data; automation and AI; behavior and demand modeling; and operations research and statistics), and planning, policy, and institutions (sustainability and the environment; economics and finance; and urban planning, design, and policy). Some students use the individually designed program to deepen their understanding of a selected area of interest, while others may choose to emphasize breadth rather than depth in their studies.

The MST degree usually takes up to two years to complete.

For more information, see the Master of Science in Transportation program description (https://cee.mit.edu/interdepartmental-program-in-transportation).

Core Subjects

1.200[J] Transportation: Foundations and Methods
11.251 Frontier of Transportation Research

Select one of the following:

1.202 Demand Modeling
1.208 Resilient Networks
1.260[J] Logistics Systems
11.478 Behavioral Science and Urban Mobility

Computation/Analytics

Select one of the following:

6.3732[J] Statistics, Computation and Applications
6.7900 Machine Learning

6.7910[J] Statistical Learning Theory and Applications
6.851 Modeling with Machine Learning: from Algorithms to Applications
15.071 The Analytics Edge
15.072 Advanced Analytics Edge

Policy, Technology, and Society

Select one subject from the list below.

Select a minimum of 24 units of transportation related electives in consultation with advisor.

Thesis

Students must complete a research-based thesis on a topic of their choice that has been approved by the thesis advisor.

1.THG Graduate Thesis

Total Units

93-99

1. Credit cannot be earned unless 6.851 and 1.851 are completed at the same time.
2. Special subjects offered by the Department of Urban Studies and Planning (Course 11) may satisfy this requirement if content satisfies MST criteria. Contact program office for available offerings.
3. Requests to waive this requirement based on prior coursework must be submitted in writing to the Transportation Education Committee (TEC) executive director.

Policy, Technology, and Society Subjects

2.65[J] Sustainable Energy
2.810 Manufacturing Processes and Systems
6.7260 Network Science and Models
11.255 Negotiation and Dispute Resolution in the Public Sector
11.478 Behavioral Science and Urban Mobility
11.526[J] Comparative Land Use and Transportation Planning
11.540 Urban Transportation Planning and Policy
15.020 Economics of Energy, Innovation, and Sustainability
15.230 Public Policy and the Private Sector
15.655[J] Law, Technology, and Public Policy
16.422 Human Supervisory Control of Automated Systems
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<td>The Airline Industry</td>
<td>12</td>
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<td>16.72</td>
<td>Air Traffic Control</td>
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<td>16.89</td>
<td>Space Systems Engineering</td>
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<td>MAS.552</td>
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<td>Human-Robot Interaction</td>
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<td>Sensor Technologies for Interactive Environments</td>
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<td>IDS.333</td>
<td>Risk and Decision Analysis</td>
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<td>Modeling and Assessment for Policy</td>
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<td>Foundations of Information Policy</td>
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