Explore Business Analytics and Operations

1. What are Business Analytics (BA) and Operations Research (OR)?
Business analytics and operations research are two scientific approaches to analyzing problems and making decisions. These approaches analyze data, use mathematical models to predict the outcomes of various choices, and zero in on the best implementation. Business analytics and operations research are applied using the "MIT approach" to making better management decisions.

2. Where should I start if I want to learn more about business analytics and operations research?
15.053 – Optimization Methods
15.075J – Statistical Thinking and Data Analysis
15.761 – Introduction to Operations Management

3. Which courses will help to prepare me for a career in business analytics or operations research?
<table>
<thead>
<tr>
<th>M</th>
<th>m</th>
<th>ms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 15 major</td>
<td>Course 15 Management minor</td>
<td>Course 15 Management Science minor</td>
</tr>
</tbody>
</table>

15.025, Game Theory
| M | m | Syllabus |
Enhances strategic thinking by identifying structures, selecting strategic moves, exploiting hidden information, and recognizing the limits of rationality.

15.034, Metrics for Managers
| m | Syllabus |
Focuses on evaluating the quality of evidence supported by data and implementing an empirical toolkit that provides credible answers for business planning.

15.053, Optimization Methods
| M | m | ms | Syllabus |
Introduces the theory, algorithms, and applications of optimization. Applications to logistics, manufacturing, project management, and finance.

15.062J, Data Mining
| M | m | ms | Syllabus |
Introduces data mining and machine learning, methods that assist in recognizing patterns and making intelligent use of massive amounts of data.

15.068, Statistical Consulting
| M | m | ms | Syllabus |
Addresses issues a consultant faces: deciphering clients' questions; finding appropriate data; performing viable analysis; and presenting compelling results.

15.071, The Analytics Edge
| M | m | ms | Syllabus |
Approaches real-world business problems by starting with data to then build models that lead to informed, and thus better, decisions.

15.073, Logistical and Transportation Planning Methods
| M | m | ms | Syllabus
Emphasizes applications of operations research in transportation systems analysis and urban service systems' logistics.

15.075J, Statistical Thinking and Data Analysis
| M | m | ms | Syllabus
Introduces statistical data analysis, including applied probability, hypothesis testing, and visualizing data.

15.761, Introduction to Operations Management
| M | m | ms | Syllabus
Focuses on how to design, analyze and improve core strategic capabilities of a firm, as well as strategies of execution.

15.762J, Supply Chain Planning
| M | m | ms | Syllabus
Focuses on effective supply chain strategies for companies that operate globally so as to create a coordinated system.

15.763J, Manufacturing Systems and Supply Chain Design
| M | m | ms | Syllabus
Focuses on decision making for system design, as it arises in manufacturing systems and supply chains.

15.770J, Logistics Systems
| M | m | ms | Syllabus
Emphasizes skills necessary to recognize and manage risk, analyze various tradeoffs, and model logistics systems.

15.772J, D-Lab: Supply Chains
| M | m | Syllabus
Introduces supply chain design and operations with a focus on products destined to improve quality of life in developing countries.

15.871, Introduction to System Dynamics
| M | m | ms | Syllabus
Introduces systems thinking and system dynamics modeling applied to strategy, organizational change, and policy design.

15.872, System Dynamics II
| M | m | ms | Syllabus
Continuation of 15.871. Explains how to use data to formulate and test models to work effectively with executives to implement change.
4. What should I take if I am interested in ...

... Statistics and Data Analysis? 15.034, 15.062J, 15.068, 15.071, 15.075
... Modeling Tools and Applications? 15.053, 15.071, 15.762J, 15.763J, 15.871, 15.872

5. What are my career options?
Sample of potential fields – strategic planning, business analysis, data scientist, business development, project management, portfolio management, research scientist

6. What are some useful career resources?
MIT Global Education and Career Development Office
MIT Sloan Undergraduate Career Resources (Sloan students only)
MIT Association of Student Activities - Student Groups
MIT Sloan Student Life Office – Student Clubs