First-Year Physics @ MIT

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Why study physics?

• Physics attempts to describe how nature works using the **language of mathematics**
• Physics lays the foundation for most science and engineering disciplines
• Physics is really cool, and learning problem-solving techniques is really useful
First-Year Physics at MIT

http://web.mit.edu/physics/prospective/undergrad/firstyear.html

Students with less preparation

- 8.01L: same material as 8.01, more gradual learning curve; extends through the end of IAP
- 8.01: standard version, TEAL format
- 8.012: more depth, harder problems
- 8.02: integral formulation of E&M, TEAL
- 8.022: differential and integral formulation
- 8.03: vibrations and waves

Students with more preparation

Classical Mechanics

Electricity & Magnetism
The 2009 Math Diagnostic Exam

Score

Frequency

55

83

Score

0 10 20 30 40 50 60 70 80 90 100

0 5 10 15 20 25 30 35
Correlation between score on Math Diagnostic Exam and performance in freshman mechanics

<table>
<thead>
<tr>
<th>Probability of not passing, or dropping out of, 8.01 for scores in indicted range</th>
<th>MDE Score</th>
<th>Averages for students passing and not passing different versions of freshman physics</th>
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<tr>
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<td>100</td>
<td>&lt; 8.012, PASS &gt;</td>
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Some information to note

- **8.01L**
  - The material is the same as 8.01
  - Best option if you scored less than 55 on the Math Diagnostic Exam (MDE)
  - There is a big advantage to taking only 3 finals in December and one in January
  - Students will not be allowed to transfer from 8.01 to 8.01L if you do not take the first 8.01L exam on Tuesday, September 28

- **8.012**
  - You need to score 83 or higher on the MDE, or AP credit with a score of 5 on both Physics C tests (scores of less than 5, or B tests do NOT qualify)
Visit instructors at Academic Expo

- 8.01L  Prof. Paul Schechter
- 8.01   Prof. Tom Greytak
- 8.012  Prof. Martin Zwierlein
- 8.02   Dr. George Stephans
- 8.022  Prof. John McGreevy