REST Requirement

Through Restricted Electives in Science and Technology (REST) Requirement subjects, students can broaden and deepen the educational foundation in basic science begun in the first-year program and further the understanding of scientific inquiry. These subjects are designed to give students the opportunity to proceed further in areas already studied, or to explore other areas of potential interest.

REST subjects vary in approach and emphasis. Some give a systematic introduction to the fundamental concepts and principles of a field; others illustrate through examples some of the attitudes, concerns, and methods that characterize professional work in the field. In general, REST subjects are not too specialized, too advanced, or devoted chiefly to instruction in a particular skill. Students typically take REST subjects in the second year, although with the proper prerequisites they may begin taking them in the first year.

Students meet the REST Requirement by taking two subjects from the list below. Of the subjects used to fulfill the requirement, the student can take no more than one in his or her department. However, subjects designated with a J that are offered jointly with another department do not fall under the departmental limitation.

In many cases, subjects required by a Departmental Program for the SB degree are also on the lists of REST and Laboratory Requirement subjects. Thus, students who follow a particular Departmental Program may simultaneously satisfy some part of these requirements.

REST Requirement Subjects

1.00 Engineering Computation and Data Science 12
1.000 Introduction to Computer Programming and Numerical Methods for Engineering Applications 12
1.050 Solid Mechanics 12
2.001 Mechanics and Materials I 12
2.003[J] Dynamics and Control I 12
2.086 Numerical Computation for Mechanical Engineers 12
3.020 Thermodynamics of Materials 12
3.021 Introduction to Modeling and Simulation 12
4.440[J] Introduction to Structural Design 12
5.07[J] Introduction to Biological Chemistry 12
5.12 Organic Chemistry I 12
5.60 Thermodynamics and Kinetics 12
5.61 Physical Chemistry 12
6.002 Circuits and Electronics 12
6.003 Signal Processing 12
6.004 Computation Structures 12
6.041 Introduction to Probability 12
7.03 Genetics 12
7.05 General Biochemistry 12
8.03 Physics III 12
8.033 Relativity 12
8.04 Quantum Physics I 12
8.041 Quantum Physics I 12
8.20 Introduction to Special Relativity 9
8.21 Physics of Energy 12
8.282[J] Introduction to Astronomy 9
8.286 The Early Universe 12
9.01 Introduction to Neuroscience 12
10.301 Fluid Mechanics 12
11.074 Cybersecurity Clinic 12
12.001 Introduction to Geology 12
12.002 Introduction to Geophysics and Planetary Science 12
12.003 Introduction to Atmosphere, Ocean, and Climate Dynamics 12
12.400 Our Space Odyssey 12
14.30 Introduction to Statistical Methods in Economics 12
15.053 Optimization Methods in Business Analytics 12
15.0791 Introduction to Applied Probability 12
16.001 Unified Engineering: Materials and Structures 12
18.03 Differential Equations 12
18.032 Differential Equations 12
18.05 Introduction to Probability and Statistics 12
18.06 Linear Algebra 12
18.061 Linear Algebra and Optimization 12
18.600 Probability and Random Variables 12
18.700 Linear Algebra 12
20.110[J] Thermodynamics of Biomolecular Systems 12
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>22.01</td>
<td>Introduction to Nuclear Engineering and Ionizing Radiation</td>
<td>12</td>
</tr>
<tr>
<td>22.02</td>
<td>Introduction to Applied Nuclear Physics</td>
<td>12</td>
</tr>
<tr>
<td>22.071</td>
<td>Analog Electronics From Circuits to the Zero-Carbon Grid</td>
<td>12</td>
</tr>
<tr>
<td>IDS.045[J]</td>
<td>System Safety</td>
<td>12</td>
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The following combinations of six-unit subjects also count toward the REST Requirement:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>5.601 &amp; 5.602</td>
<td>Thermodynamics I and Thermodynamics II and Kinetics</td>
<td>12</td>
</tr>
<tr>
<td>5.611 &amp; 5.612</td>
<td>Introduction to Spectroscopy and Electronic Structure of Molecules</td>
<td>12</td>
</tr>
<tr>
<td>6.0001 &amp; 6.0002</td>
<td>Introduction to Computer Science Programming in Python and Introduction to Computational Thinking and Data Science</td>
<td>12</td>
</tr>
<tr>
<td>6.0001 &amp; 16.0002[J]</td>
<td>Introduction to Computer Science Programming in Python and Introduction to Computational Science and Engineering</td>
<td>12</td>
</tr>
</tbody>
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