SUBJECTS

In summer, many departments offer opportunities for current MIT students to register for arranged-unit subjects such as UROP, Special Studies, Research, Internship, Co-op, Independent Study, Pre-Thesis, Thesis, and Graduate Thesis, by prior arrangement with a faculty member. The following departments are also offering some regular academic classes in Summer Session 2017:

- Health Sciences and Technology (http://catalog.mit.edu/summer/subjects/hst)
- Management (http://catalog.mit.edu/summer/subjects/15)
- Mathematics (http://catalog.mit.edu/summer/subjects/18)

These descriptions are current but are subject to change.

- Aeronautics and Astronautics (Course 16) (http://catalog.mit.edu/summer/subjects/16)
- Aerospace Studies (AS) (http://catalog.mit.edu/summer/subjects/as)
- Anthropology (Course 21A) (http://catalog.mit.edu/summer/subjects/21a)
- Architecture (Course 4) (http://catalog.mit.edu/summer/subjects/4)
- Biological Engineering (Course 20) (http://catalog.mit.edu/summer/subjects/20)
- Biology (Course 7) (http://catalog.mit.edu/summer/subjects/7)
- Brain and Cognitive Sciences (Course 9) (http://catalog.mit.edu/summer/subjects/9)
- Chemical Engineering (Course 10) (http://catalog.mit.edu/summer/subjects/10)
- Chemistry (Course 5) (http://catalog.mit.edu/summer/subjects/5)
- Civil and Environmental Engineering (Course 1) (http://catalog.mit.edu/summer/subjects/1)
- Comparative Media Studies / Writing (CMS) (http://catalog.mit.edu/summer/subjects/cms)
- Comparative Media Studies / Writing (Course 21W) (http://catalog.mit.edu/summer/subjects/21w)
- Computational and Systems Biology (CSB) (http://catalog.mit.edu/summer/subjects/csb)
- Concourse (CC) (http://catalog.mit.edu/summer/subjects/cc)
- Data, Systems, and Society (IDS) (http://catalog.mit.edu/summer/subjects/ids)
- Earth, Atmospheric, and Planetary Sciences (Course 12) (http://catalog.mit.edu/summer/subjects/12)
- Economics (Course 14) (http://catalog.mit.edu/summer/subjects/14)
- Edgerton Center (EC) (http://catalog.mit.edu/summer/subjects/ec)
- Electrical Engineering and Computer Science (Course 6) (http://catalog.mit.edu/summer/subjects/6)
- Experimental Study Group (ES) (http://catalog.mit.edu/summer/subjects/es)
- Global Studies and Languages (Course 21G) (http://catalog.mit.edu/summer/subjects/21g)
- Health Sciences and Technology (HST) (http://catalog.mit.edu/summer/subjects/hst)
- History (Course 21H) (http://catalog.mit.edu/summer/subjects/21h)
- Humanities (Course 21) (http://catalog.mit.edu/summer/subjects/21)
- Linguistics and Philosophy (Course 24) (http://catalog.mit.edu/summer/subjects/24)
- Literature (Course 21L) (http://catalog.mit.edu/summer/subjects/21l)
- Management (Course 15) (http://catalog.mit.edu/summer/subjects/15)
- Materials Science and Engineering (Course 3) (http://catalog.mit.edu/summer/subjects/3)
- Mathematics (Course 18) (http://catalog.mit.edu/summer/subjects/18)
- Mechanical Engineering (Course 2) (http://catalog.mit.edu/summer/subjects/2)
- Media Arts and Sciences (MAS) (http://catalog.mit.edu/summer/subjects/mas)
- Military Science (MS) (http://catalog.mit.edu/summer/subjects/ms)
- Music and Theater Arts (Course 21M) (http://catalog.mit.edu/summer/subjects/21m)
- Naval Science (NS) (http://catalog.mit.edu/summer/subjects/ns)
- Nuclear Science and Engineering (Course 22) (http://catalog.mit.edu/summer/subjects/22)
- Physics (Course 8) (http://catalog.mit.edu/summer/subjects/8)
- Political Science (Course 17) (http://catalog.mit.edu/summer/subjects/17)
- Science, Technology, and Society (STS) (http://catalog.mit.edu/summer/subjects/sts)
- Special Programs (SP) (http://catalog.mit.edu/summer/subjects/sp)
- Supply Chain Management (SCM) (http://catalog.mit.edu/summer/subjects/scm)
- Urban Studies and Planning (Course 11) (http://catalog.mit.edu/summer/subjects/11)
- Women's and Gender Studies (WGS) (http://catalog.mit.edu/summer/subjects/wgs)
How to Read Subject Descriptions

A subject description consists of four parts:

- Subject name (p. 4)
- Subject information (p. 4)
- Subject content (p. 5)
- Instructor(s) (p. 5)

Examples:

11.003[J] Methods of Policy Analysis
Same subject as 17.303[J]
Prereq: 11.002[J]; Coreq: 14.01
Acad Year 2017-2018: U (Spring)
Acad Year 2018-2019: Not offered
3-0-9 units. HASS-S

Provides students with an introduction to public policy analysis. Examines various approaches to policy analysis by considering the concepts, tools, and methods used in economics, political science, and other disciplines. Students apply and critique these approaches through case studies of current public policy problems.

Staff

20.110[J] Thermodynamics of Biomolecular Systems
Same subject as 2.772[J]
Prereq: Calculus II (GIR), Chemistry (GIR), Physics I (GIR)
U (Fall, Spring)
5-0-7 units. REST


Fall: M. Birnbaum C. Volgt
Spring: E. Alm, C. Volgt

Subject Information

The subject information section may include the following:

<table>
<thead>
<tr>
<th>Degree</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same subject as</td>
<td>Appears in parentheses, with the subject's other number(s), if a subject is jointly offered by or cross-listed with one or more departments.</td>
</tr>
<tr>
<td>Offered under</td>
<td>Appears in parentheses, with all the cross-listed subject numbers that comprise a School-Wide Elective (SWE); this type of listing is unique to the School of Engineering.</td>
</tr>
<tr>
<td>Subject meets with</td>
<td>Denotes a subject that is taught with one or more subjects at a different level, or with all or a significant part of one or more subjects at the same level. Subjects that meet together have different coursework requirements.</td>
</tr>
<tr>
<td>Prereq:</td>
<td>Introduces prerequisites (additional prereqs may be listed in the subject content). Students who have not completed the stated prerequisites must obtain the instructor's permission to register. Prerequisites are listed before corequisites, which are subjects that must be taken simultaneously with the subject described and are introduced by &quot;Coreq:&quot; and noted in italics. A list of prerequisites with no additional text denotes that all of the subjects in a series are required, for example:</td>
</tr>
<tr>
<td></td>
<td>Prereq: 6.021[J], 6.034, 6.046[J], 18.417</td>
</tr>
<tr>
<td></td>
<td>The use of &quot;or&quot; denotes that just one of a series of prerequisites is required. When there are more than two options, commas are used, for example:</td>
</tr>
<tr>
<td></td>
<td>Prereq: 7.03, 7.05, 7.06, or 7.28</td>
</tr>
<tr>
<td></td>
<td>A semicolon is used to separate individual prerequisites from one of a series of prerequisites, or to separate several series of prerequisites, for example:</td>
</tr>
<tr>
<td></td>
<td>Prereq: 6.008 or 6.046[J]; 18.06</td>
</tr>
<tr>
<td></td>
<td>Implicit prerequisites are not listed. For example, it is not necessary to list 7.05 as a prerequisite if 7.06 is already listed.</td>
</tr>
<tr>
<td></td>
<td>Because there are multiple versions of the subjects that satisfy General Institute Requirements (GIRs) in Science, those subjects are identified as GIRs when they appear as prerequisites and corequisites. The subjects that currently fulfill each requirement are listed below:</td>
</tr>
<tr>
<td>Biology (GIR):</td>
<td>7.012, 7.013, 7.014, 7.015, 7.016</td>
</tr>
<tr>
<td>Calculus I (GIR):</td>
<td>18.01, 18.01A</td>
</tr>
<tr>
<td>Calculus II (GIR):</td>
<td>18.02, 18.02A, 18.022</td>
</tr>
<tr>
<td>Chemistry (GIR):</td>
<td>3.091, 5.111, 5.112</td>
</tr>
<tr>
<td>Physics I (GIR)</td>
<td>8.01, 8.01L, 8.01L, 8.012</td>
</tr>
<tr>
<td>Physics II (GIR):</td>
<td>8.02, 8.021, 8.022</td>
</tr>
</tbody>
</table>
**SUBJECTS**

<table>
<thead>
<tr>
<th>Subject Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a description of the subject content is not given, the associated subject number under which the description can be found appears instead. Any subject open only to special groups is so noted at the end of its content description.</td>
</tr>
</tbody>
</table>

**Instructor(s)**

The name of the instructor(s) or department contact appears in italics at the end of the subject description.