# B.S. Double Major in Physics & Law, Technology and Culture - Astronomy Option

(132 credits minimum)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>First Year</strong></td>
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<tr>
<td><strong>1st Semester</strong></td>
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<tr>
<td>HUM 101</td>
<td>English Composition: Writing, Speaking, Thinking I</td>
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<tr>
<td>PHYS 111</td>
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<td>PHYS 111A</td>
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<tr>
<td>CS 113</td>
<td>Introduction to Computer Science</td>
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<tr>
<td>or CS 115</td>
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<tr>
<td>CHEM 121</td>
<td>Fundamentals of Chemical Principles I</td>
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<tr>
<td>or CHEM 125</td>
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<td>PHYS 114</td>
<td>Introduction to Data Reduction with Applications</td>
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<td>Physics II</td>
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<td>CHEM 122</td>
<td>Fundamentals of Chemical Principles II</td>
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<td>Survey of Probability and Statistics</td>
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<td>PHYS 234</td>
<td>Physics III</td>
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<td>PHYS 231A</td>
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<td>English Composition: Writing, Speaking, Thinking II</td>
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<td>History and Humanities GER 200 level (<a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level</a>)</td>
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<td>MATH 222</td>
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<td>MATH 328</td>
<td>Mathematical Methods for Scientists and Engineers</td>
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<td>Introductory Thermodynamics</td>
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<td>PHYS 432</td>
<td>Electromagnetism I</td>
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<td>PHYS 320</td>
<td>Astronomy and Astrophysics I</td>
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<td>PHYS 430</td>
<td>Classical Mechanics I</td>
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### 2nd Semester

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<tbody>
<tr>
<td>PHYS 433</td>
<td>Electromagnetism II</td>
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<tr>
<td>PHYS 321</td>
<td>Astronomy and Astrophysics II</td>
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<td>PHYS 418</td>
<td>Fundamentals of Optical Imaging</td>
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<tr>
<td>Elective (Math/Physics)</td>
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**Term Credits**: 15

### Fourth Year

### 1st Semester

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<tr>
<td>PHYS 420</td>
<td>Special Relativity</td>
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<tr>
<td>PHYS 442</td>
<td>Introduction to Quantum Mechanics</td>
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<td>Elective (Math/Physics/Computer Science)</td>
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**Technical Elective**: 3

**Technical Elective**: 3

**Term Credits**: 15

### 2nd Semester

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<td>Observational Astronomy</td>
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<td>PHYS 421</td>
<td>General Relativity</td>
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<td>PHYS 450</td>
<td>Advanced Physics Lab</td>
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**Term Credits**: 15

### Fifth Year

### 1st Semester

<table>
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<tr>
<td>HSS 404</td>
<td>Humanities Senior Seminar - History</td>
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<td>Coop in Law, Technology &amp; Culture</td>
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<td>R790 201</td>
<td>American Government</td>
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**Term Credits**: 12

**Total Credits**: 132

Math 333 is an acceptable alternative to Math 225

**LEGAL FOUNDATIONS ELECTIVES:**

HIST 361; HIST 364; HIST 369; HIST 362; PHIL 300; STS 300; R790:304 132

**LTC CORE ELECTIVES:**

HIST 370; HIST 375; HIST 378; HIST 384; IE447; IT331; IT332; IT400; R790:382; EVSC335