<table>
<thead>
<tr>
<th>Core Biology Courses - 15cr (Required)</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 200 Concepts in Biology (4cr)</td>
<td>△</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>R120/201 Found of Cell/Molec (3cr)</td>
<td>△</td>
<td>BOIL 200</td>
<td></td>
</tr>
<tr>
<td>R120/202 Found of Cell/Molec Lab (1cr)</td>
<td>△</td>
<td>BOIL 200</td>
<td></td>
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<tr>
<td>BIOL 205 Found of Ecol/Env (3cr)</td>
<td>△</td>
<td>BOIL 200</td>
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<tr>
<td>BIOL 206 Found of Ecol/Env Lab (1cr)</td>
<td>△</td>
<td>BOIL 200</td>
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<tr>
<td>MATH 373 Introduction to Math-Biology</td>
<td>□</td>
<td>M211/337</td>
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</table>

### 2A Ecology and Evolution - 3cr (Choose one class)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 222 Evolution</td>
<td>△</td>
<td>101/102</td>
<td></td>
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</tr>
<tr>
<td>R120/280 Ecology</td>
<td>□</td>
<td>101/102</td>
<td></td>
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<tr>
<td>R120/282 Animal Behavior</td>
<td>△</td>
<td>101/102</td>
<td></td>
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</tr>
<tr>
<td>R120/370 Plant Ecology</td>
<td>□</td>
<td>101/102</td>
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</table>

### 2B Functional Organism - 4cr (Choose one class)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>R120/211 Plant Kingdom</td>
<td>□</td>
<td>101/102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R120/230 Biology of Seed Plants</td>
<td>△</td>
<td>201/202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R120/330 Plant Physiology</td>
<td>□</td>
<td>201/202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R120/335 General Microbiology</td>
<td>△</td>
<td>101/102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R120/340 Mammalian Physiology</td>
<td>△</td>
<td>201/202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R120/342/3 Developmental Biol &amp; Lab</td>
<td>△</td>
<td>201/202</td>
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</table>

### 3C Molecular and Cellular - 3cr (Choose one class)

<table>
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<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>R120/352 Genetics</td>
<td>□</td>
<td>201/202</td>
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<tr>
<td>R120/355 Cell Biology</td>
<td>□</td>
<td>201/202</td>
<td></td>
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<tr>
<td>R120/356 Molecular Biology</td>
<td>△</td>
<td>201/202</td>
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<tr>
<td>R120/360 Biochemistry</td>
<td>△</td>
<td>201/202</td>
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</table>

### 2 Laboatory Courses - 7cr (Choose at least one 4-credit lab class)

#### Four Credit Laboratories (4cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>R120/211 Plant Kingdom</td>
<td>□</td>
<td>101/102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R120/227 Biology of Invertebrates</td>
<td>△</td>
<td>101/102</td>
<td></td>
<td></td>
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<tr>
<td>R120/230 Biology of Seed Plants</td>
<td>△</td>
<td>201/202</td>
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<tr>
<td>R120/285 Comparative Vertebrate Anatomy</td>
<td>△</td>
<td>101/102</td>
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<tr>
<td>R120/311 Taxonomy of Vascular Plants</td>
<td>△</td>
<td>211 or 230</td>
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<tr>
<td>R120/313 Mycology</td>
<td>△</td>
<td>101/102</td>
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<tr>
<td>R120/325/6 Animal Parasites &amp; Lab</td>
<td>□</td>
<td>201/202</td>
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<tr>
<td>R120/330 Plant Physiology</td>
<td>△</td>
<td>201/202</td>
<td></td>
<td></td>
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<tr>
<td>R120/335 General Microbiology</td>
<td>△</td>
<td>101/102</td>
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<tr>
<td>R120/340 Mammalian Physiology</td>
<td>△</td>
<td>201/202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R120/342/3 Developmental Biol &amp; Lab</td>
<td>△</td>
<td>201/202</td>
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<tr>
<td>BIOL 451 Cell Physiology &amp; Imaging</td>
<td>□</td>
<td>355, Phys 111</td>
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</table>

#### Three Credit Laboratories (3cr)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>R120/328 Ecology of Birds</td>
<td>□</td>
<td>280 or 270</td>
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<tr>
<td>R120/380 Field Ecology</td>
<td>□</td>
<td>280</td>
<td></td>
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<tr>
<td>R120/371 Field Studies Plant Ecol</td>
<td>□</td>
<td>280 or 270</td>
<td></td>
<td></td>
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<tr>
<td>R120/381 Field Studies Animal Ecol</td>
<td>□</td>
<td>280</td>
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<tr>
<td>BIOL 475 Analytical Field Methods</td>
<td>□</td>
<td>280 or 270</td>
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<tr>
<td>R120/486 Tropical Field Biology</td>
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</table>

### 4 Mathematical Biology Electives - 3cr (Choose one class)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 371 Physiology &amp; Medicine</td>
<td>△</td>
<td>Math 222</td>
<td></td>
<td></td>
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<tr>
<td>Math 372 Population Biology</td>
<td>□</td>
<td>Math 222</td>
<td></td>
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<tr>
<td>Math 430 Computational Neuroscience</td>
<td>△</td>
<td>M211++</td>
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</table>

### 35 Required Biology Credits

**Current Total:** _________

### 5 Mathematical Biology Electives - Choose one class

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>MATH 111 Calculus I (4cr)</td>
<td>△</td>
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<tr>
<td>MATH 112 Calculus II (4cr)</td>
<td>□</td>
<td>Math 111</td>
<td></td>
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<tr>
<td>MATH 211 Calculus III (3cr)</td>
<td>△</td>
<td>Math 112</td>
<td></td>
<td></td>
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<tr>
<td>MATH 222 Differential Equations (4cr)</td>
<td>△</td>
<td>Math 112</td>
<td></td>
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<tr>
<td>MATH 331 Partial Differential Equat. (3cr)</td>
<td>△</td>
<td>M211/222</td>
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<tr>
<td>MATH 332 Complex Variable (3cr)</td>
<td>△</td>
<td>M211/222</td>
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<tr>
<td>MATH 333 Probability and Statistics (3cr)</td>
<td>△</td>
<td>Math 112</td>
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<tr>
<td>MATH 337 Linear Algebra (3cr)</td>
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<td>Math 112</td>
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<tr>
<td>MATH 340 Applied Numerical Methods (3cr)</td>
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<td>211+</td>
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<tr>
<td>MATH 450 Methods of Applied Math I (3cr)</td>
<td>△</td>
<td>M331/337+</td>
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<tr>
<td>MATH 451 Methods of Applied Math II (3cr)</td>
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<td>Math 450</td>
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<tr>
<td>MATH 480 Intro Mathematical Analysis (3cr)</td>
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<td>Math 211</td>
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</table>

### 39 Required Mathematics Credits

**Current Total:** _________

### 6A Cognate Science Courses - 23cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 124 General Chem Lab (1cr)</td>
<td>△</td>
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<td>Chem 125</td>
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<tr>
<td>CHEM 125 General Chemistry I (3cr)</td>
<td>△</td>
<td>Placement</td>
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<tr>
<td>CHEM 126 General Chemistry II (3cr)</td>
<td>△</td>
<td></td>
<td>Chem 125</td>
<td></td>
</tr>
<tr>
<td>CHEM 243 Organic Chemistry I (3cr)</td>
<td>△</td>
<td>Chem 126</td>
<td></td>
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<tr>
<td>CHEM 244 Organic Chemistry II (3cr)</td>
<td>△</td>
<td>Chem 243</td>
<td></td>
<td></td>
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<tr>
<td>CHEM 244A Organic Chemistry Lab (2cr)</td>
<td>△</td>
<td>Chem 243</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 111 Physics I Lab (3cr)</td>
<td>△</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PHYS 111A Physics I Lab (1cr)</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>PHYS 121 Physics II (3cr)</td>
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<td>Phys 111</td>
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<tr>
<td>PHYS 121A Physics II Lab (1cr)</td>
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<td>Phys 111A</td>
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</tbody>
</table>

**Chem 121, 122 and 123 are equivalent to Chem 125 and 126. Phys 105, 106 and 121 are equivalent to Phys 111 and 121. Placement test results determine the appropriate sequence of courses.**

### 6B Cognate Computer Science Course - 6cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNFO 135 Bioinformatics I (3cr)</td>
<td>△</td>
<td></td>
<td>BNFO 135</td>
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</tr>
<tr>
<td>BNFO 136 Bioinformatics II (3cr)</td>
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<td>BNFO 135</td>
<td></td>
</tr>
</tbody>
</table>

**CS 115 and CS 116 can be used to fulfill the BNFO 135/136 requirements.**

### 29 Required Cognate Course Credits

**Current Total:** _________

△ Fall  □ Spring  ● Summer
General University Requirements for Biology-Math Double Majors

### 7 English & Cultural History GUR - 9cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition: Writing, Speaking, Thinking I (3cr)</td>
<td>HUM 101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Composition: Writing, Speaking, Thinking II (3cr)</td>
<td>HUM 102</td>
<td></td>
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</tr>
<tr>
<td>GUR Elective: English and Cultural History(^1) (3cr)</td>
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</tbody>
</table>

\(^1\) Choice of HUM 211, HUM 212 or HIST 213; or any approved 200-level History course at Rutgers Newark.

### 8 Physical Education GUR - 2cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUR Elective: Physical Education (1cr)</td>
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<td></td>
<td></td>
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<tr>
<td>GUR Elective: Physical Education (1cr)</td>
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</table>

### 9 Basic Social Sciences GUR - 6cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUR Elective: Social Sciences(^2) (3cr)</td>
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<tr>
<td>GUR Elective: Social Sciences(^2) (3cr)</td>
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</table>

\(^2\) Two Courses: EPS 202, ECON 201, ECON 265, ECON 266, STS 257, STS 258; or approved Social Science courses at Rutgers Newark.

### 10 Management GUR - 3cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Management (3cr)</td>
<td>MGMT 390</td>
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</table>

### 11 Humanities and Social Science Upper Level GUR - 6cr

<table>
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<tr>
<th>Course</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUR Elective: HSS Upper Level Elective(^3) (3cr)</td>
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</tr>
<tr>
<td>GUR Elective: HSS Upper Level Elective(^3) (3cr)</td>
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</tr>
</tbody>
</table>

\(^3\) Two Courses: 300-level courses in COM, ENG, HIST, LIT, PHIL, STS, THTR; or approved 300-level or above HSS courses at Rutgers Newark.

### 12 Humanities and Social Science Senior Seminar GUR - 3cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Prereqs</th>
<th>Sem</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUR Elective: HSS Senior Seminar(^4) (3cr)</td>
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</tbody>
</table>

\(^4\) Choice of HSS 403, 404, 405, 406, 407, 408, 409, 491.

### Notes and Comments:

__________________________________________________________________________________________________________________________________________________________
______________________________________________________________________________________________________________________________________________________________________________________
______________________________________________________________________________________________________________________________________________________________________________________

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Biology Credits: 35  Math Credits: 39  Total Credits: 132  
All biology and cognate courses require grades of C or better.