Biology Major- Zoology Option

Highlights of the Major

- A strong background in Biology, Ecology, and Evolution as well as selected upper division cluster courses
- Students need to pick a primary cluster from two areas: (1) Physiology and Neuroscience, and (2) Biodiversity and Systematics. Students will take 22 units total from approved cluster courses. A minimum of 3 units must come from each cluster.
- Completion of both Invertebrate Zoology (ZOO 237/237L) and Vertebrate Zoology (ZOO 238/238L), as well as Animal Physiology (ZOO 428/428L) is required.
- The curriculum sheets and road maps are posted on the website, http://www.csupomona.edu/~academic/sheets/
- Flow sheets indicate the order of courses to take and the courses which are pre-requisites for other courses, and the quarter(s) that the courses are offered.
  http://www.csupomona.edu/~biology/advising/index.shtml

General Education (GE)

- The table summarizes the GE requirements for this major. Some courses are also counted toward the Required Support Courses.
- GE synthesis courses, B5, C4 and D4 must be taken after completing the previous requirements within the same area and have a junior standing. For example, C4 can be taken only after taken C1-3.

<table>
<thead>
<tr>
<th>GE Area</th>
<th>Requirements</th>
<th>Units</th>
<th>Total units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>*</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>ENG 104</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENG 105</td>
<td>4</td>
<td></td>
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<tr>
<td>B</td>
<td>CHM 121</td>
<td>3</td>
<td>&gt;16</td>
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<td></td>
<td>BIO 121</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>BIO 121L &amp; CHM 121L</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>MAT 120 and STA 120</td>
<td>4+(4)</td>
<td></td>
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<tr>
<td></td>
<td>BIO 304 or BIO 340</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1-4</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>D</td>
<td>PLS 201 &amp; HST 202†</td>
<td>8</td>
<td>20</td>
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<tr>
<td></td>
<td>2-4</td>
<td>12</td>
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<tr>
<td>E</td>
<td>FN 203 or PSY 201 or PSY 210 or SCI 101/A &amp; SCI 102/A</td>
<td>4</td>
<td>4</td>
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</tbody>
</table>

*Select from courses that satisfy this GE area; link to a list of GE courses: http://catalog.csupomona.edu/preview_program.php?catoid=4&poid=1004
† These two courses also satisfy the 8-unit requirement for American Institutions; HST 202 also satisfies the 4-unit American Cultural Perspectives requirement

How to Declare a Cluster

- Students do not need to formally declare a cluster. However, cluster courses may fall under un-used units in the Degree Progress Report and need to be petitioned to count toward specific clusters, which should be done during the senior year.
- See the advisor at the Department Advising Center; make sure to bring the list of courses counted toward your respective clusters.
Approved Support Electives

- List of support approved electives on website:
  http://www.csupomona.edu/~biology/advising/index.shtml
- 200, 300 400 level courses in biological sciences (BIO, BOT, MIC, ZOO prefix courses) not specifically designed for non-majors
- These courses can be used as approved support electives, but NOT upper division core electives:
  BIO 301 (Human Sexuality)
  BIO 302 (Biology of Cancer)
  BIO 328 (Biology of Aging)
  If one of these courses is taken as a GE B5 course, it cannot also be counted as an approved elective support course.
- These courses cannot be used as support (or core) electives
  BIO 300 (Genetics and Human Issues)
  BIO 311 (Sexually Transmitted Diseases)
  MIC 301 (Germs and You)
- Only 2 units of BIO 200 or BIO 400 can count toward approved support electives
- Maximum 2 units of BIO200 (or 400), 4 units of BIO 461 (or BIO 441), 2 units of BIO 462 are allowed as support electives.
- BIO 461 and BIO 462 do not count as core electives.
- Students can include advanced courses in Chemistry, Math, and Physics as support electives.
  Students can use MAT 115 and MAT 116 if taking the Calculus series: MAT 114, 115, and 116.
  Students can include CHM 315/317L and 316/319L if taking the Organic Chemistry series. Courses from other departments may be used if they are relevant to career goals. A petition is required to request approval of elective courses outside the College of Science.

Other Notes

- BIO 304 & BIO 340: Take one and it satisfies GE area B5. Take both and one satisfies GE Area B5 and the other counts as credit toward Elective Support Courses.
- The pre-requisites for BIO 310 (Cell and Molecular Biology) are changed to BIO 303 (Genetics) and one quarter of organic chemistry (CHM 201/250L or CHM 314/317L). You need a permission number if you have taken CHM 314/317L only (not completed the organic chemistry series). Contact the Bio Dept office (8-119) for a permission number.