2014-2015 BACHELOR OF SCIENCE--BIOLOGICAL SCIENCES MAJOR AREAS OF EMPHASIS: EEB, MRB, PLB

Name:______________________________________          ID:____________________________

Note: A course may be used to satisfy only 1 requirement in the entire major.

EVOLUTION, ECOLOGY AND BIODIVERSITY AREA OF EMPHASIS (12 units)
Students choose to complete Biological Sciences 105 or 102+103 for this emphasis.

Completed

Field Requirements:
Field A = EVE 100 _____
Field B = EVE 101 _____

Units Grade GPB
1. At least 12 units including at least one course from each of the following two groups
      NEM 110; PLB 116*, 118*, 147*, 148*; WFC 110, 110L*, 111, 111L*, 120, 120L*
      ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

2. Laboratory/Fieldwork Requirement: Included in the above 12 units, complete a total of 2 units or a total of 6 hours/week of fieldwork or laboratory work. Acceptable courses for this requirement are identified above by an asterisk (*). _____

TOTAL FOR EEB AREA

PLANT BIOLOGY AREA OF EMPHASIS (14-17 units)
Students choose to complete Biological Sciences 105 or 102+103 for this emphasis. A course may be listed in more than one area or field requirement, but may be used to satisfy only one area or field requirement.

Select one course from each of the following four areas.

Units Grade GPB
1. Anatomy and morphology: EVE 140; PLB 105, 116
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

2. Physiology, development and molecular biology: PLB 111, 112, 113; PLP 130.
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

3. Evolution and ecology: EVE 100, 117; PLB 117, 143.
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

TOTAL FOR PLB AREA

MARINE BIOLOGY AREA OF EMPHASIS (13-19 units)
Students choose to complete Biological Sciences 105 or 102+103 for this emphasis.

Completed

Field Requirements:
Field A = EVE 100 _____
Field B = EVE 101 _____
Field D = NPB 102 or 141 _____

Units Grade GPB
1. Ocean Processes: At least 3 units from BIS 122; ESP 124, 152; ESP/GEL 116N, 150A, 150B, 150C; EVE 115; WFC 157.
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

2. Marine Organismal Biology: At least 3 units from ANS 119, 131; EVE 106, 110, 112+112L, 114; NPB 141; PLB118; WFC 120+120L, 121.
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____
   ___________________ _____ _____ _____

3. Immersion Requirement: Complete one of four options listed below, offered spring quarter or summer sessions at Bodega Marine Laboratory or equivalent. Requires residence at Bodega Marine Laboratory. Option 1: (summer session 1) Complete a, b and c:
   a. Select one course from ESP 124; EVE 106, 110, 114 _____________ __3__ _____ _____
   b. BIS 124 __3__ _____ _____
   c. ESP/EVE 111 __1__ _____ _____
   Option 2: (summer session 2) Complete a and b
   a. Select one course from ESP 152; GEL 150C _________________ _____ _____ _____
   b. BIS 124 __3__ _____ _____
   Option 3: (summer session 1) ETX/NUT 127 _10__ _____ _____
   Option 4: Select one course from each of the following two groups:
   a. BIS 122; NPB 141 _________________ _____ _____ _____
   b. BIS 122P; NPB 141P _____________ __5__ _____ _____

TOTAL FOR MRB AREA

Deficiencies/Comments:

Quarter/Initials/Date: ________________________________

(Forms area of emphasis eve,mrb,plb 2014-21015 6-10-2014)
MICROBIOLOGY AREA OF EMPHASIS (15-20 units)

Complete one of four options listed below or complete an individual option with approval from your faculty adviser.

### Option 1: Microbial Physio. & Molec. Genetics (15-18 units)

--Students must complete Biological Science 102+103 for this option.  BIS 102+103 completed ____

--Field C requirement = MIC 104 completed ____

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) MIC 104L</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) MIC 115</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) MIC 170</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) One course from: MIC 150; MCB 121.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**e)** One course from: MIC 105+105L, 155L, 170; PMI 127.

### Option 2: Microbial Diversity and Ecology (15-17 units)

--Students must complete Biological Science 102+103 for this option.  BIS 102+103 completed ____

--Field C requirement = MIC 104 completed ____

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) MIC 104L</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) MIC 105</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) MIC 105L</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) MIC 170</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) One course from: FST 104; MIC 115, 162, 170; PMI 127, 128; PLB/PLP 148; SSC 111.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Option 3: Biotechnology & Applied Microbiology (16-19 units)

--Students choose to complete Biological Sciences 105 or 102+103 for this option.

--Field C requirement = MIC 104 completed ____

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) MIC 104L</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Select two courses from: MIC 115, 170, MCB 121</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) One course from: FST 102A, 104.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) One course from: MCB 120L, 160L.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Option 4: Medical Microbiology (12-20 units)

--Students choose to complete Biological Sciences 105 or 102+103 for this option.

--Student may complete Field C requirement and laboratory requirement for this option with MIC 101, or MIC 104 + 104L.  Students are encouraged to take MIC 101 to fulfill both field C requirement and lab requirement.  Students completing MIC 104 for field C, must also complete MIC 104L for lab requirement for this option.

Field C requirement and lab completed with MIC 101 ______

**OR** Field C requirement and lab completed with MIC 104 ______

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) PMI 126 or MMI 188</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) PMI 127</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) One course from: MIC 105+105L, 162; PMI 128.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) One course from: MIC 115, 170, MCB 121.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL FOR MIC AREA ______

### MOLECULAR AND CELLULAR BIOLOGY AREA OF EMPHASIS (12-17 units)

Students must complete Biological Science 102+103 for this emphasis.  BIS 102+103 completed ____

1. **Molecular Biology and Gene Expression:** One course from MCB 121.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
</table>

2. **Laboratory Experience:** One or more laboratory courses from MCB 120L, 140L, 160L or other lab course (to total 3 units or 9 hrs/week) that emphasizes cellular or molecular biology with approval from your faculty adviser.

3. **Restricted Electives:** Two or more courses from MCB 123, 124, 126, 143, 144, 145, 150, 162, 163, 164, 182; NPB 103; PMI 126; PLB 113, 126; or other courses with faculty adviser's approval.

TOTAL FOR MCB AREA ______

### NEUROBIOLOGY, PHYSIOLOGY AND BEHAVIOR AREA OF EMPHASIS (15 units)

Students choose to complete Biological Sciences 105 or 102+103 for this emphasis.

Complete 15 units choosing courses from at least two of the following areas (1-3 below) including one laboratory from: NPB 101L, 104L, 141P or 160L.


<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
</table>

2. **Physiology:** APC 100, ENT 102; EXB 101, 110, 111, 125; NPB 101, 101L, 103, 104L, 105, 106*, 111C, 111L, 113, 114, 117, 121, 121L, 122, 123, 127, 128, 130, 132, 139, 140, 141, 141P, 152*; PMI 126; WFC 121.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
</table>

3. **Behavior:** ANT 154A, 154C; ENT 104; NPB 102, 150, 152*, 159, 162; PSC 122, 123, 129*.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>GPB</th>
</tr>
</thead>
</table>

*Course may be used only once to satisfy Area of Emphasis requirements.

TOTAL FOR NPB AREA ______

Deficiencies/Comments: ___________________________

Quarter/Initials Date: ____________________________

Forms 2014-15 area of emphasis mic,mcb,npb 6-10-14