CURRICULUM IN BIOLOGICAL SCIENCES
BIOLOGY EDUCATION CONCENTRATION
2014 - 2015

Date: _______________________________                                                   Student: ___________________________
Advisor: ____________________________     W#_______________________________

BIOLOGY (41) C or Better*
(41)
Core Requirements (21 hrs)
*GBIO 151 ___3___
*BIOL 152 ___1___
*GBIO 153 ___3___
*BIOL 154 ___1___
*MIC 205 or 223 ___3___
*MICL 207 or 224 ___1___
*GBIO 200 ___3___
*GBIO 312 ___3___
*GBIO 241 ___1___
*GBIO 341 ___1___
*GBIO 441 ___1___

EDUCATION (33)
**EDUC 203 ___2___
**EDUC 212 ___1___
*EDUC 407 ___3___
*EDUC 472 ___3___
*EDUC 475 ___1___
*EDUC 490 ___6___
*EDUC 486 ___9___
*EPSY 311 ___3___
*EPSY 315 ___3___
*SPED 210 ___2___

SOCIAL STUDIES (6)
HIST 417 ___3___
2Social Science ___3___

OTHER (9)
SE 101 ___2___
LS 102 ___1___
COMM 210 ___3___
ART elective (Mus,Art,Dnc,Thea) ___3___

TOTAL HOURS 120

CHEMISTRY (16)
*CHEM 121 ___3___
*CLAB 123 ___1___
*CHEM 122 ___3___
*CLAB 124 ___1___
*CHEM 261 ___3___
*CLAB 263 ___1___
*CHEM 281 ___3___
*CHEM 283 ___1___

ENGLISH (9)
ENGL 101 ___3___
*ENGL 102 ___3___
ENGL 230 or 231 or 232 ___3___

MATHEMATICS (6)
**MATH 161 (or MATH 155) ___3___
*MATH 162 or 165 ___3___

SE 101 is not required for transfer or readmitted Southeastern students with 30 hours or more. These students are required to take two hours of electives.

*A grade of C or better is required in these courses.

**A grade of B or better is required in these courses.

1Students with Math ACT <21 take MATH 155 (5 hrs) in place of MATH 161 (3 hrs); only 3 hrs from MATH 155 count towards the 120 hr degree requirement.

2One course (3 hrs) selected from ECON, GEOG, ANTH, POLI, PSYC, or SOC. The 200 level or above requirement for social sciences is fulfilled with EPSY311

3CHEM 121 and MATH 155/161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.
I. Core Courses (page 1): 21 CREDIT HOURS

II. Upper-level Courses for the Biology Education Concentration

20 CREDIT HOURS from the following courses with approval of the Biology Education Advisor

*A grade of C or better is required in these courses

**GROUP A** – required courses (12 hrs)

*GBIO 395 General Ecology 3 hrs
*GBIO 397 General Ecology Laboratory 2 hrs
*GBIO 405 Evolutionary Biology 4 hrs
*GBIO 498 Biological Science for Teachers 3 hrs

**GROUP B:** Electives (8 hrs)

*ZOO 302 Comparative Anatomy 4 hrs
*ZOO 392 Animal Physiology 4 hrs
*PHYS 191 General Physics 3 hrs
*PLAB 193 General Physics Laboratory 1 hr
*PHYS 192 General Physics 3 hrs
*PLAB 194 General Physics Laboratory 1 hr
## CURRICULUM IN BIOLOGICAL SCIENCES
### ECOLOGY, ENVIRONMENTAL, and EVOLUTIONARY BIOLOGY CONCENTRATION

<table>
<thead>
<tr>
<th>Year: 2014 / 2015</th>
<th>Year Entered SLU:________</th>
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**NAME:**

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<tr>
<th>MAJOR HOURS (41) C or Better&lt;sup&gt;1&lt;/sup&gt;</th>
<th>1&lt;sup&gt;ST&lt;/sup&gt; MATHEMATICS (9)</th>
<th>2&lt;sup&gt;ST&lt;/sup&gt; SOCIAL SCIENCES (6)</th>
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<tr>
<td><strong>Core Requirements (21 hrs)</strong></td>
<td>1&lt;sup&gt;ST&lt;/sup&gt; MATH 161 3</td>
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<td>GBIO 151 3</td>
<td>MATH 162 3</td>
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<tr>
<td>MIC 205 3</td>
<td>or 1&lt;sup&gt;ST&lt;/sup&gt; MATH 165 and 200 (8)</td>
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<td>3&lt;sup&gt;RD&lt;/sup&gt; GBIO 200 3</td>
<td>MATH 165 3</td>
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<td>MATH 200 5</td>
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**Upper-level Courses (20 hrs) page 2**

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<tr>
<th>ENGLISH (12)</th>
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<tr>
<td>ENGL 101</td>
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<td>or 121H 3</td>
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<td>ENGL 102</td>
<td>PHYS 192 3</td>
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<tr>
<td>ENGL 322 3</td>
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</table>

**FOR. LANGUAGES (12) | OTHER (12)**
---------------------|-------------------|

101 3              | ART ELECTIVE (Mus, Art, Dnc, Thea) |
102 3              |                                  |
201 3              |                                  |
202 3              |                                  |

LS 102 1           |                                  |
COMM211 3          |                                  |
HIST 3             |                                  |
SE 101 2           |                                  |

SE 101 is not required of transfer or readmitted students with 30 hrs or more. These students are required to take two additional hrs of electives (i.e., 6 hrs instead of 4 hrs).

**CHEMISTRY (16)**

| CHEM 121 3       |                                  |
| CLAB 123 1      |                                  |
| CHEM 122 3      |                                  |
| CLAB 124 1      |                                  |
| CHEM 265 or 261 3 |                             |
| CLAB 267 or 263 1 |                             |
| CHEM 266 or 281 3 |                             |
| CLAB 268 or 283 1 |                             |

**ELECTIVES (4)**

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<th>SLU: (Adj)</th>
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**TOTAL HOURS 120**

**NOTES:**

1<sup>ST</sup> Students with Math ACT < 21 take MATH 155 (5 hrs) in place of MATH 161 (3 hrs); only 3 hrs from MATH 155 count towards the 120 hr degree requirement. MATH 165 and 200 (8 credit hours) may be taken in place of MATH 161, 162, and 163 (9 credit hours). Students who take MATH 165 and 200 are required to take one additional hour of electives (i.e., 5 hrs instead of 4 hrs).

2<sup>ND</sup> One social science course (3 hrs) must be at the 200 level or above.

3<sup>RD</sup> Grade of “C” or better in CHEM 121, MATH 155/161, and all Biology courses is required. Also, CHEM 121 and MATH 155/161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.

**GBIO 441** fulfills requirement for computer literacy

**ADDITIONAL COURSES:**
ECOLOGY, ENVIRONMENTAL, and EVOLUTIONARY BIOLOGY CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS (Grade of "C" or better required in all courses)

II. Upper-level courses for the Ecology, Environmental, Evolutionary Biology Concentration: 20 CREDIT HOURS from the following courses with approval of advisor (Grade of "C" or better required in all courses)

Group A: Fundamental Courses – total 13 hrs – the following four courses are required
- GBIO 377 Biostatistics 4 hrs
- GBIO 395 General Ecology 3 hrs
- GBIO 397 General Ecology Laboratory 2 hrs
- GBIO 405 Evolutionary Biology 4 hrs

Group B: Electives – minimum 7 hrs from these electives. Only one 200 level course may be selected.
- BOT 205 Introduction to Botany 4 hrs
- BOT 347 Vascular Plant Systematics 4 hrs
- BOT 426 Plant Physiology 4 hrs
- BOT 427 Plant Stress Ecophysiology 4 hrs
- BOT 429 Native Plants of Louisiana 4 hrs
- BOT 481 Plant Ecology 4 hrs
- BOT 482 Plant Anatomy 4 hrs
- GBIO 281 Environmental Awareness 3 hrs
- GBIO 404 Ecological Methods 3 hrs
- GBIO 406 Wetlands Ecology 4 hrs
- GBIO 418 Community Ecology 4 hrs
- GBIO 439 Freshwater & Estuary Biology 4 hrs
- GBIO 442 Marine Biology 4 hrs
- GBIO 481 Biogeography 3 hrs
- GBIO 485 Conservation Biology 4 hrs
- ZOO 301 Invertebrate Zoology 4 hrs
- ZOO 302 Comparative Anatomy of the Vertebrates 4 hrs
- ZOO 392 General Physiology 4 hrs
- ZOO 352 Field Zoology 4 hrs
- ZOO 409 General Entomology 4 hrs
- ZOO 456 Ichthyology 4 hrs
- ZOO 458 Fisheries Ecology & Mgmt 4 hrs
- ZOO 457 Invertebrate Ecology 4 hrs
- ZOO 470 Ornithology 4 hrs
- ZOO 465 Animal Development 4 hrs
- ZOO 475 Animal Behavior 4 hrs
- MIC 313 Microbial Ecology 3 hrs
- MIC 438 Soil Microbiology 4 hrs
- MIC 423 Environmental Microbiology 4 hrs

(NOTE: * these electives require PRIOR approval of student’s advisor and Department Head.)

*GBIO 409 Internship – Variable credits, 1 to 3 hours (Max 3 hours total)
*GBIO 450 Research Problems – Variable credits, 1 to 4 hours (Max 4 hours total)
*GBIO 493 Special Topics in Biology – Variable credits, 2 to 4 hours

Maximum four credit hours from these courses may be applied to concentration elective requirements.

CMPS 450 Spatial Database & Applications 3 hrs
GEOG 495 Introduction to GIS 3 hrs
POLI 446 Politics & the Environment 3 hrs
SOC 360 Environmental Sociology 3 hrs
CURRICULUM IN BIOLOGICAL SCIENCES
INTEGRATIVE BIOLOGY CONCENTRATION

YEAR: 2014 / 2015

NAME: ____________________________________________

WEIGHT: ____________

MAJOR HOURS (41) C or Better

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<th>2nd</th>
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<td>TOTAL HOURS</td>
<td>120</td>
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NOTES:  
1 Students with Math ACT <21 take MATH 155 (5 hrs) in place of MATH 161 (3 hrs); only 3 hrs from MATH 155 count towards the 120 hr degree requirement. MATH 165 and 200 (8 credit hours) may be taken in place of MATH 161, 162, and 163 (9 credit hours). Students who take MATH 165 and 200 are required to take one additional hour of electives (i.e., 5 hrs instead of 4 hrs).
2 One social science course (3 hrs) must be at the 200 level or above.
3 Grade of “C” or better in CHEM 121, MATH 155/161, and all Biology courses is required. Also, CHEM 121 and MATH 155/161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.
**GBIO 441 fills requirement for computer literacy

ADDITIONAL COURSES:

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<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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AVERAGES

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INTEGRATIVE BIOLOGY CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS (Grade of "C" or better required in all courses)

II. Upper-level Courses for the Integrative Biology Concentration.  
20 CREDIT HOURS from the following courses with approval of advisor (Grade of "C" or better required in all courses)

GROUP A – minimum one required – Ecology or Evolution

- Ecology – GBIO 395 General Ecology 3 hrs and GBIO 397 General Ecology Laboratory 2 hrs
- Evolution – GBIO 405 Evolutionary Biology 4 hrs

GROUP B – Electives

- BOT 205 Introduction to Botany 4 hrs
- BOT 347 Vascular Plant Systematics 4 hrs
- BOT 401 Plant Pathology 4 hrs
- BOT 426 Plant Physiology 4 hrs
- BOT 427 Plant Stress Ecophysiology 4 hrs
- BOT 429 Native Plants of Louisiana 4 hrs
- BOT 481 Plant Ecology 4 hrs
- BOT 482 Plant Anatomy 4 hrs
- GBIO 281 Environmental Awareness 3 hrs
- GBIO 314 Genetics Laboratory 2 hrs
- GBIO 377 Applied Biostatistics 4 hrs
- GBIO 395 General Ecology 3 hrs
- GBIO 397 General Ecology Laboratory 2 hrs
- GBIO 404 Ecological Methods 3 hrs
- GBIO 405 Evolutionary Biology 4 hrs
- GBIO 406 Wetland Ecology 4 hrs
- GBIO 407 Forensic Biology 4 hrs
- GBIO 418 Community Ecology 4 hrs
- GBIO 439 Introduction to Fresh Water & Estuarine Biology 4 hrs
- GBIO 450 Research Problems – Variable credits, 1 to 4 hours (Max 4 hours total)
- GBIO 493 Special Topics in Biology – Variable credits, 2 to 4 hours

*GBIO 409 Internship – Variable credits, 1 to 3 hours (Max 3 hours total)

Maximum of four credit hours of Biochemistry may be used for concentration elective requirements. NOTE: If CHEM 281 and CLAB 283 are taken to fulfill Chemistry requirements, they may not be used for elective requirements.
MAJOR HOURS (41) C or Better  
1 MATHEMATICS (9)  
1,3 MATH 161 3  
2 SOCIAL SCIENCES (6)  
(Anth, Econ, Geo, Psych, Poli, Soc)  

Core Requirements (21 hrs)  
GBIO 151 3  
Biol 152 1  
GBIO 153 3  
MIC 205 3  
MICL 207 1  
3 GBIO 200 3  
3 GBIO 312 3  
GBIO 241 1  
GBIO 341 1  
GBIO 441** 1  

Upper-level Courses (20 hrs) page 2  

CHEMISTRY (20)  
3 CHEM 121 3  
CLAB 123 1  
CHEM 122 3  
CLAB 124 1  
CHEM 265 3  
CLAB 267 1  
CHEM 266 3  
CLAB 268 1  
CHEM 481 3  
CLAB 485 1  

FOR. LANGUAGES (12)  
101 3  
102 3  
201 3  
202 3  

CHEM 121 3  
CLAB 123 1  
CHEM 122 3  
CLAB 124 1  
CHEM 265 3  
CLAB 267 1  
CHEM 266 3  
CLAB 268 1  
CHEM 481 3  
CLAB 485 1  

CHEM 121 3  
CLAB 123 1  
CHEM 122 3  
CLAB 124 1  
CHEM 265 3  
CLAB 267 1  
CHEM 266 3  
CLAB 268 1  
CHEM 481 3  
CLAB 485 1  

TOTAL HOURS 120  

NOTES:  
1 Students with Math ACT <21 take MATH 155 (5 hrs) in place of MATH 161 (3 hrs); only 3 hrs from MATH 155 count towards the 120 hr degree requirement. MATH 165 and 200 (8 credit hours) may be taken in place of MATH 161, 162, and 163 (9 credit hours). Students who take MATH 165 and 200 are required to take one hour of electives.  
2 One social science course (3 hrs) must be at the 200 level or above.  
3 Grade of “C” or better in CHEM 121, MATH 155/161, and all Biology courses is required. Also, CHEM 121 and MATH 155/161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.  

**GBIO 441 fulfills requirement for computer literacy.
MICROBIOLOGY / MOLECULAR BIOLOGY CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS (Grade of "C" or better required in all courses)
II. Upper-level courses for the Microbiology and Molecular Biology Concentration.
   20 CREDIT HOURS from the following courses with approval of advisor (Grade of "C" or better required in all courses)

GROUP A: Fundamental courses – total 8 hrs – the following two courses are required
   MIC 325 Advanced General Microbiology 4 hrs
   MIC 461 Bacterial Metabolism 4 hrs

GROUP B: Electives – minimum 12 hrs
   MIC 313 Microbial Ecology 3 hrs
   MIC 336 Pathogenic Microbiology 4 hrs
   MIC 338 Soil Microbiology 4 hrs
   MIC 423 Environmental Microbiology 4 hrs
   MIC 457 Dairy and Food Microbiology 4 hrs
   MIC 460 Immunology 4 hrs
   MIC 463 Virology 4 hrs
   MIC 465 Recombinant DNA Techniques 4 hrs
   CHEM 482 Biochemistry II 3 hrs
   CLAB 486 Biochemistry II Laboratory 1 hr
   BOT 401 Plant Pathology 4 hrs
   BOT 426 Plant Physiology 4 hrs
   GBIO 314 Genetics Laboratory 2 hrs
   GBIO 377 Applied Biostatistics 4 hrs
   GBIO 495 Electron Microscopy 4 hrs
   ZOO 392 Animal Physiology 4 hrs
   ZOO 455 Medical Parasitology 4 hrs
   ZOO 465 Animal Development 4 hrs
   ZOO 471 Comparative Endocrinology 4 hrs
   ZOO 499 Neurobiology 4 hrs

(NOTE: * these electives require PRIOR approval of student’s advisor and Department Head.)
*GBIO 409 Internship – Variable credits, 1 to 3 hours (Max 3 hours total)
*GBIO 450 Research Problems – Variable credits, 1 to 4 hours (Max 4 hours total)
*GBIO 493 Special Topics in Biology – Variable credits, 2 to 4 hours
# CURRICULUM IN BIOLOGICAL SCIENCES
## PLANT SCIENCE CONCENTRATION

**Year:** 2014 / 2015  
**Year Entered SLU:**

**Name:**

**W#**

## Major Hours (41) C or Better

### Core Requirements (21 hrs)

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### Mathematics (9)

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### Social Sciences (6)

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### Physics (8)

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<td>PHYS 192</td>
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<table>
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<td>or 122H</td>
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<td>ENGL 322</td>
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### Foreign Languages (12)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 102</td>
<td>1</td>
</tr>
<tr>
<td>COMM211</td>
<td>3</td>
</tr>
<tr>
<td>HIST</td>
<td>3</td>
</tr>
<tr>
<td>SE 101</td>
<td>2</td>
</tr>
</tbody>
</table>

SE 101 is not required of transfer or readmitted students with 30 hours or more. These students are required to take two additional hours of electives (i.e., 6 hrs instead of 4 hrs).

### Chemistry (16)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 121</td>
<td>3</td>
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<tr>
<td>CLAB 123</td>
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<tr>
<td>CHEM 122</td>
<td>3</td>
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<tr>
<td>CLAB 124</td>
<td>1</td>
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<tr>
<td>CHEM 265 or 261</td>
<td>3</td>
</tr>
<tr>
<td>CLAB 267 or 263</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 266 or 281</td>
<td>3</td>
</tr>
<tr>
<td>CLAB 268 or 283</td>
<td>1</td>
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### Electives (4)

**Total Hours 120**

**Notes:**
1. Students with Math ACT <21 take MATH 155 (5 hrs) in place of MATH 161 (3 hrs); only 3 hrs from MATH 155 count towards the 120 hr degree requirement. MATH 165 and 200 (8 credit hours) may be taken in place of MATH 161, 162, and 163 (9 credit hours). Students who take MATH 165 and 200 are required to take one additional hour of electives (i.e., 5 hrs instead of 4 hrs).
2. One social science course (3 hrs) must be at the 200 level or above.
3. Grade of “C” or better in CHEM 121, MATH 155/161, and all Biology courses is required. Also, CHEM 121 and MATH 155/161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.

**Additional Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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**Averages**

<table>
<thead>
<tr>
<th>HA</th>
<th>HE</th>
<th>QP</th>
<th>Average</th>
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**Cum:**

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<thead>
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**Major:**

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**Slu:**

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<th>(Adj)</th>
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PLANT SCIENCE CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS (Grade of "C" or better required in all courses)

II. Upper-level Courses for Plant Science Concentration.

20 CREDIT HOURS from the following courses with approval of advisor (Grade of "C" or better required in all courses)

Electives – 20 hrs

- BOT 205 Introduction to Botany  4 hrs
- BOT 347 Vascular Plant Systematics  4 hrs
- BOT 401 Plant Pathology  4 hrs
- BOT 426 Plant Physiology  4 hrs
- BOT 427 Plant Stress Ecophysiology  4 hrs
- BOT 429 Native Plants of Louisiana  4 hrs
- BOT 481 Plant Ecology  4 hrs
- BOT 482 Plant Anatomy  4 hrs
- GBIO 377 Applied Biostatistics  4 hrs
- GBIO 395 General Ecology  3 hrs
- GBIO 397 General Ecology Laboratory  2 hrs
- GBIO 404 Ecological Methods  3 hrs
- GBIO 405 Evolutionary Biology  4 hrs
- GBIO 406 Wetland Ecology  4 hrs
- GBIO 418 Community Ecology  4 hrs
- GBIO 485 Conservation Biology  4 hrs
- HORT 301 Introductory Soils  4 hrs
- HORT 315 Plant Materials I  3 hrs
- HORT 320 Plant Materials II  4 hrs
- HORT 328 Plant Propagation  3 hrs
- HORT 412 Turf Management  3 hrs
- HORT 424 Arboriculture  3 hrs
- HORT 426 Coastal Plant Production  3 hrs
- HORT 428 Organic Gardening  3 hrs
- HORT 490 Survey of the Horticulture Industry  4 hrs
- ZOO 409 General Entomology  4 hrs

(NOTE: * these electives require PRIOR approval of student’s advisor and Department Head.)

*GBIO 409 Internship – Variable credits, 1 to 3 hours (Max 3 hours total)
*GBIO 450 Research Problems – Variable credits, 1 to 4 hours (Max 4 hours total)
*GBIO 493 Special Topics in Biology – Variable credits, 2 to 4 hours
*HORT 495 Seminar – 1 hour