CURRICULUM IN BIOLOGICAL SCIENCES
INTEGRATIVE BIOLOGY CONCENTRATION

YEAR: 2012/2013       YEAR ENTERED SLU: ________

NAME: ___________________________       W# ___________________________

MAJOR HOURS (41) C or Better

<table>
<thead>
<tr>
<th>Core Requirements (21 hrs)</th>
<th>MATHEMATICS (9)</th>
<th>SOCIAL SCIENCES (6)</th>
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SOCIAL SCIENCES (6)

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Upper-level Courses (20 hrs) page 2

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<td>CLAB 124 1</td>
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| CHEM 265 or 261 3              | 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)
| CLAB 267 or 263 1              |                                 |
| CHEM 266 or 281 3              |                                 |
| CLAB 268 or 283 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 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 G BIO 200, and G BIO 200 is a prerequisite for G BIO 312.
**GBIO 441 fulfills requirement for computer literacy

ADDITIONAL COURSES:

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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 481 Biogeography 3 hrs
GBIO 485 Conservation Biology 4 hrs
GBIO 492 History of Biology 3 hrs
GBIO 495 Biological Electron Microscopy 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
MIC 313 Microbial Ecology 3 hrs
MIC 325 Advanced General Microbiology 4 hrs
MIC 423 Environmental Microbiology 4 hrs
MIC 436 Pathogenic Bacteria 4 hrs
MIC 457 Dairy & Food Microbiology 4 hrs
MIC 460 Immunology 4 hrs
MIC 461 Bacterial Metabolism 4 hrs
MIC 463 Virology 4 hrs
MIC 465 Recombinant DNA Techniques 4 hrs
ZOO 301 Invertebrate Zoology 4 hrs
ZOO 302 Comparative Anatomy 4 hrs
ZOO 332 Animal Histology 4 hrs
ZOO 352 Field Zoology 4 hrs
ZOO 392 Animal Physiology 4 hrs
ZOO 409 General Entomology 4 hrs
ZOO 453 Ecological Parasitology 4 hrs
ZOO 455 Medical Parasitology 4 hrs
ZOO 456 Ichthyology 4 hrs
ZOO 457 Invertebrate Ecology 4 hrs
ZOO 458 Fisheries Ecology and Management 4 hrs
ZOO 465 Animal Development 4 hrs
ZOO 471 Comparative Endocrinology 4 hrs
ZOO 475 Animal Behavior 4 hrs
ZOO 488 Cytology 3 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

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.

CHEM 281 Survey of Biochemistry 3 hrs
CLAB 283 Survey of Biochemistry Laboratory 1 hr
CHEM 481 Biochemistry I 3 hrs
CLAB 485 Biochemistry I Laboratory 1 hr
CHEM 482 Biochemistry II 3 hrs
CLAB 486 Biochemistry II Laboratory 1 hr
# CURRICULUM IN BIOLOGICAL SCIENCES

## ECOLOGY, ENVIRONMENTAL, and EVOLUTIONARY BIOLOGY CONCENTRATION

**Year: 2012/2013**

**Name:**

**W#**

### MAJOR HOURS (41) C or Better

#### Core Requirements (21 hrs)
- GBIO 151 __3__
- BIOL 152 __1__
- GBIO 153 __3__
- BIOL 154 __1__
- MIC 205 __3__
- MICL 207 __1__
- ³GBIO 200 __3__
- GBIO 241 __1__
- GBIO 341 __1__
- GBIO 441** __1__

#### ¹MATHEMATICS (9)
- MATH 161 __3__
- MATH 162 __3__
- MATH 163 __3__

#### ²SOCIAL SCIENCES (6)
- (Anth, Econ, Geog, Psyc, Poli, Soc) __3__

#### PHYSICS (8)
- PHYS 191 __3__
- PLAB 193 __1__
- PHYS 192 __3__
- PLAB 194 __1__

### Upper-level Courses (20 hrs) page 2

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### ENGLISH (12)
- ENGL 101 or 121H __3__
- ENGL 102 or 122H __3__
- ENGL 230 or 231 or 232 __3__
- ENGL 322 __3__

---

### CHEMISTRY (16)
- ³CHEM 121 __3__
- CHEM 122 __3__
- CLAB 123 __1__
- CLAB 124 __1__
- CHEM 265 or 261 __3__
- CLAB 267 or 263 __1__
- CHEM 266 or 281 __3__
- CLAB 268 or 283 __1__

### FOR. LANGUAGES (12)
- LS 102 __3__
- COMM211 __3__
- HIST __3__
- SE 101 __2__

### ELECTIVES (4)

---

### OTHER (12)

**TOTAL HOURS 120**

**NOTES:**

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. 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).

²One social science course (3 hrs) must be at the 200 level or above.

³Grade 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:**

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**AVERAGES**

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</table>
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
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<td><strong>TOTAL HOURS</strong></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 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.

**ADDITIONAL COURSES:**

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**ADDITIONAL COURSES:**

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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: 2012/2013
NAME: ____________________________
YEAR ENTERED SLU: ________
W# ____________________________

MAJOR HOURS (41) C or Better
Core Requirements (21 hrs)
GBIO 151 3
BIOL 152 1
GBIO 153 3
BIOL 154 1
MIC 205 3
MICL 207 1
3GBIO 200 3
3GBIO 312 3
GBIO 241 1
GBIO 341 1
GBIO 441** 1

SOCIAL SCIENCES (6)
(Anth, Econ, Geog, Psyc, Poli, Soc)

PHYSICS (8)

ENGLISH (12)
ENGL 101
or 121H 3
ENGL 102
or 122H 3
ENGL 230 or 231 or 232 3
ENGL 322 3

OTHER (12)
ART ELECTIVE (Mus, Art, Dnc, Thea)

FOR. LANGUAGES (12)
LS 102 1
COMM 211 3
HIST 3
SE 101 2
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)
3CHEM 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)

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.
**GBIO 441 fulfills requirement for computer literacy

ADDITIONAL COURSES: ____________________________

CUM: ________
(Adj) ________
MAJOR ________
(Adj) ________
SLU: ________
(Adj) ________
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
**CURRICULUM IN BIOLOGICAL SCIENCES**  
**BIOLOGY EDUCATION CONCENTRATION**  
2012 - 2013

| Date: ___________________________________________ | Student: ___________________________ |
| Advisor: ___________________________________________ | W# _________________________________ |

**BIOLOGY (41) C or Better**

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<td>*EPSY 311</td>
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<td>ENGL 230 or 231 or 232</td>
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<td>*MATH 162 or 165</td>
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**TOTAL HOURS** 120

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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