**CURRICULUM IN BIOLOGICAL SCIENCES**  
**INTEGRATIVE BIOLOGY CONCENTRATION**

### YEAR: 2021 / 2022

**NAME:** ________________________________  
**W#** ________________________________

### MAJOR HOURS (41) C or Better

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>GBIO 151</td>
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<tr>
<td>BIOL 152</td>
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<tr>
<td>GBIO 153</td>
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<td>BIOL 154</td>
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<td>MIC 205</td>
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<td>MICL 207</td>
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<td>GBIO 312</td>
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<td>GBIO 241</td>
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<td>GBIO 341</td>
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<td>GBIO 441**</td>
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### Core Requirements (21 hrs)

- **Mathematics (9)**  
  - MATH 161 ______ 3
  - MATH 162 ______ 3
  - MATH 163 ______ 3

- **Social Sciences (6)**  
  - Anth, Econ, Geog, Psyc, Poli, Soc

- **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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<th>Course</th>
<th>Hours</th>
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<tr>
<td>GBIO 241</td>
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<td>GBIO 341</td>
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<td>GBIO 441**</td>
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### For Languages (6)

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<th>Course</th>
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<tbody>
<tr>
<td>LS 102</td>
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<td>COMM 211</td>
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### CHEMISTRY (16)

<table>
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<tr>
<td>2CHEM 121</td>
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<td>CLAB 123</td>
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<td>CHEM 122</td>
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<td>CLAB 124</td>
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<td>3CHEM 261</td>
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<td>3CLAB 263</td>
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<td>3CHEM 281</td>
<td>3</td>
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<td>3CLAB 283</td>
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### Electives (10)

- **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 (6)**  
  - 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., 12 hrs instead of 10 hrs)

### Total Hours 120

**Notes:**

1. Students with Math ACT <21 take MATH 151 in place of MATH 161. Students who are eligible may take MATH 175 and 200 (10 credit hours) in place of MATH 161, 162, and 163 (9 credit hours). Students who take MATH 175 and 200 are required to take one less hour of electives (i.e., 9 hrs instead of 10 hrs).

2. Grade of “C” or better in CHEM 121, MATH 151 or 161, and all Biology courses is required. Also, CHEM 121 and MATH 151 or 161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.

3. **Note:** CHEM 265/267 can NOT be used as prequisites for CHEM 281/283. Other possible sequence of courses include: CHEM 261/CLAB 263 or CHEM 265/CLAB 267 followed by MIC 461 or GBIO 434. Also, GBIO 434 or MIC 461 may be taken in place of CHEM 281/283. Students planning on attending medical, dental, or other professional or graduate schools, and students pursuing a minor in Chemistry, should take CHEM 265/267 and CHEM 266/268 in place of CHEM 261/263 and CHEM 281/283.

4. Students planning to apply to the Master of Business Administration (MBA) program at SELU should take ECON 201 and 202 for the Social Sciences requirement, must take ACCT 200 and FIN 381 and should also take MRKT 303 or MGMT 351 as Electives, and must take GBIO 377 as an upper-level Biology elective.

****GBIO 441 fulfills requirement for computer literacy

### ADDITIONAL COURSES:

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<th>Course</th>
<th>Hours</th>
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### AVERAGES

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<td><strong>CUM:</strong> (Adj)</td>
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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 433 Botany 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 408 Computational Biology 4 hrs
- GBIO 410 Introduction to Population Genetics 4 hrs
- GBIO 418 Community Ecology 4 hrs
- GBIO 434 Molecular Biology and Biotechnology 4 hrs
- GBIO 439 Introduction to Fresh Water & Estuarine Biology 4 hrs
- GBIO 442 Marine 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 438 Soil Microbiology 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 331 Embryology 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 418 Community Ecology 4 hrs
- ZOO 428 Waterfowl Management 3 hrs
- ZOO 438 Mammmalogy 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 470 Ornithology 4 hrs
- ZOO 471 Comparative Endocrinology 4 hrs
- ZOO 475 Animal Behavior 4 hrs
- ZOO 483 Introduction to Paleontology 4 hrs
- ZOO 485 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