CURRICULUM IN BIOLOGICAL SCIENCES
INTEGRATIVE BIOLOGY CONCENTRATION

YEAR: 2010/2011

YEAR ENTERED SLU:_____

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_____
GBIO 200_____3_____
GBIO 312 _____3_____
GBIO 241 _____ 1_____
GBIO 341_____1_____
GBIO 441**____1_____

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

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_____

MATHEMATICS (8-9)
MATH 161 ____3_____
(ACT< 21 MATH 155 – 5hrs)
MATH 162_____3_____
MATH 163_____3_____

or MATH 165 and 200
MATH 165_____3_____
MATH 200_____5_____

ENGLISH (12)
ENGL 101
or 121H _____3_____
ENGL 102
or 122H _____3_____
ENGL 230 or 231 or 232
_____3_____
ENGL 322 _____3_____

FOR. LANGUAGES (12)
_____101 ____3_____
_____102 ____3_____
_____201 ____3_____
_____202 ____3_____

OTHER ELECTIVES (8)
_____
_____
_____
_____
_____

SOCIAL SCIENCES (6)
(Anth,Econ,Geog,Gov,Psyc,Poli,Soc)
_____3_____
_____3_____

PHYSICS (8)
PHYS 191_____3_____
PLAB 193_____1_____
PHYS 192_____3_____
PLAB 194 _____1_____

OTHER (10-13)

ART ELECTIVE (Mus,Art,Dnc,Thea)
_____ _____3_____
LS 102 _____1_____
COMM211 _____3_____
HIST_____ ___3_____
SE 101 _____0/3____

TOTAL HOURS 121-125

*Grade of "C" or better in all Biology courses is required in order for the course to count towards the B.S. degree in Biological Sciences
**GBIO 441 fulfills requirement for computer literacy

ADDITIONAL COURSES:
_____
_____
_____
_____
_____
_____

AVERAGES

	HA	HE	QP	Average
CUM:				
(Adj)				
MAJOR				
(Adj)				
SLU:				
(Adj)				

INTEGRATIVE BIOLOGY CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS

II. Upper-level Courses for the Integrative Biology Concentration.

20 CREDIT HOURS from the following courses with approval of advisor

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 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
HORT 490 Survey of the Horticulture Industry 4 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: 2010/2011

YEAR ENTERED SLU:_____

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_____
GBIO 200_____3_____
GBIO 312 _____3_____
GBIO 241 _____ 1_____
GBIO 341_____1_____
GBIO 441**____1_____

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

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_____

MATHEMATICS (8-9)
MATH 161 ____3_____
(ACT< 21 MATH 155 – 5hrs)
MATH 162_____3_____
MATH 163_____3_____

or MATH 165 and 200
MATH 165_____3_____
MATH 200_____5_____

ENGLISH (12)
ENGL 101
or 121H _____3_____
ENGL 102
or 122H _____3_____
ENGL 230 or 231 or 232
_____3_____
ENGL 322 _____3_____

FOR. LANGUAGES (12)
_____101 ____3_____
_____102 ____3_____
_____201 ____3_____
_____202 ____3_____

OTHER ELECTIVES (8)
_____
_____
_____
_____

SOCIAL SCIENCES (6)
(Anth,Econ,Geog,Gov,Psyc,Poli,Soc)
_____3_____
_____3_____

PHYSICS (8)
PHYS 191_____3_____
PLAB 193_____1_____
PHYS 192_____3_____
PLAB 194 _____1_____

OTHER (10-13)

ART ELECTIVE (Mus,Art,Dnc,Thea)
_____ _____3_____
LS 102 _____1_____
COMM211 _____3_____
HIST_____ ___3_____
SE 101 _____0/3____

TOTAL HOURS 121-125

*Grade of "C" or better in all Biology courses is required in order for the course to count towards the B.S. degree in Biological Sciences
**GBIO 441 fulfills requirement for computer literacy

ADDITIONAL COURSES:
_____
_____
_____
_____
_____
_____

	AVERAGES HA	HE	QP	Average
CUM:				
(Adj)				
MAJOR				
(Adj)				
SLU:				
(Adj)				

ECOLOGY, ENVIRONMENTAL, and EVOLUTIONARY BIOLOGY CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS

II. Upper-level courses for the Ecology, Environmental, Evolutionary Biology Concentration: 20 CREDIT HOURS from the following courses with approval of advisor

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 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
MICROBIOLOGY / MOLECULAR BIOLOGY CONCENTRATION

YEAR: 2010/2011

YEAR ENTERED SLU:_____

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_____
GBIO 200_____3_____
GBIO 312 _____3_____
GBIO 241 _____ 1_____
GBIO 341_____1_____
GBIO 441**____1_____

Upper-level Courses (20 hrs) page 2

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

CHEMISTRY (20)

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_____

MATHEMATICS (8-9)

MATH 161 ____3_____
(ACT< 21 MATH 155 – 5hrs)
MATH 162_____3_____
MATH 163_____3_____

or MATH 165 and 200
MATH 165_____3_____
MATH 200_____5_____

ENGLISH (12)

ENGL 101
or 121H _____3_____
ENGL 102
or 122H _____3_____
ENGL 230 or 231 or 232
_____3_____
ENGL 322 _____3_____

FOR. LANGUAGES (12)

_____101 ____3_____
_____102 ____3_____
_____201 ____3_____
_____202 ____3_____

OTHER ELECTIVES (4)

_____
_____
_____
_____

SOCIAL SCIENCES (6)

(Anth,Econ,Geog,Gov,Psyc,Poli,Soc)
_____3_____
_____3_____

PHYSICS (8)

PHYS 191_____3_____
PLAB 193_____1_____
PHYS 192_____3_____
PLAB 194 _____1_____

OTHER (10-13)

ART ELECTIVE (Mus,Art,Dnc,Thea)
_____ _____3_____
LS 102 _____1_____
COMM211 _____3_____
HIST_____ ___3_____
SE 101 _____0/3____

TOTAL HOURS 121-125

*Grade of "C" or better in all Biology courses is required in order for the course to count towards the B.S. degree in Biological Sciences
**GBIO 441 fulfills requirement for computer literacy

ADDITIONAL COURSES:

_____
_____
_____
_____
_____
_____

	AVERAGES HA	HE	QP	Average
CUM:				
(Adj)				
MAJOR				
(Adj)				
SLU:				
(Adj)				

MICROBIOLOGY / MOLECULAR BIOLOGY CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS
II. Upper-level courses for the Microbiology and Molecular Biology Concentration.
20 CREDIT HOURS from the following courses with approval of advisor

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 4hrs
BIOL 314 Genetics Laboratory 2 hrs
GBIO 377 Applied Biostatistics 4hrs
GBIO 495 Electron Microscopy 4 hrs
ZOO 392 Animal Physiology 4 hrs
ZOO 455 Medical Parasitology 4hrs
ZOO 465 Animal Development 4 hrs
ZOO 471 Comparative Endocrinology 4hrs
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: 2010/2011

YEAR ENTERED SLU:_____

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_____
GBIO 200_____3_____
GBIO 312 _____3_____
GBIO 241 _____ 1_____
GBIO 341_____1_____
GBIO 441**____1_____

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

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_____

MATHEMATICS (8-9)
MATH 161 _____3_____
(ACT< 21 MATH 155 – 5hrs)
MATH 162_____3_____
MATH 163_____3_____

or MATH 165 and 200
MATH 165_____3_____
MATH 200_____5_____

ENGLISH (12)
ENGL 101
or 121H _____3_____
ENGL 102
or 122H _____3_____
ENGL 230 or 231 or 232
_____3_____
ENGL 322 _____3_____

FOR. LANGUAGES (12)
_____101 ____3_____
_____102 ____3_____
_____201 ____3_____
_____202 ____3_____

OTHER ELECTIVES (8)
_____
_____
_____
_____
_____

SOCIAL SCIENCES (6)
(Anth,Econ,Geog,Gov,Psyc,Poli,Soc)
_____3_____
_____3_____

PHYSICS (8)
PHYS 191_____3_____
PLAB 193_____1_____
PHYS 192_____3_____
PLAB 194 _____1_____

OTHER (10-13)

ART ELECTIVE (Mus,Art,Dnc,Thea)
_____ _____3_____
LS 102 _____1_____
COMM211 _____3_____
HIST_____ ___3_____
SE 101 _____0/3____

TOTAL HOURS 121-125

*Grade of "C" or better in all Biology courses is required in order for the course to count towards the B.S. degree in Biological Sciences
**GBIO 441 fulfills requirement for computer literacy

ADDITIONAL COURSES:
_____
_____
_____
_____
_____
_____

AVERAGES

	HA	HE	QP	Average
CUM:				
(Adj)				
MAJOR				
(Adj)				
SLU:				
(Adj)				

PLANT SCIENCE CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS
II. Upper-level Courses for Plant Science Concentration.
20 CREDIT HOURS from the following courses with approval of advisor

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 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