CURRICULUM IN BIOLOGICAL SCIENCES BIOLOGY EDUCATION CONCENTRATION 2018 - 2019

Date:

Advisor:

Student:

W#_____

BIOLOGY (41) C or Better*	(41)	EDUCATION	(33)
Core Requirements (21 hrs)	()	**EDUC 202	3
*GBIO 151	3	*EDUC 407	3
*BIOL 152	1	*EDUC 472	3
*GBIO 153	3	*EDUC 453	6
*BIOL 154	1	*EDUC 485	3
*MIC 205 or 223		*EDUC 486	9
*MICL 207 or 224	1	*EDUC 316	3
* ¹ GBIO 200	3	*SPED 200	3
* ¹ GBIO 312	3		
*GBIO 241	1	SOCIAL SCIENCES	(6)
*GBIO 341		PSYC 101	3
*GBIO 441		PSYC 204	3
Upper-level Courses (20 hrs) p <u>CHEMISTRY</u> * ¹ CHEM 121 *CLAB 123 *CHEM 122 *CLAB 124 *CHEM 261 *CHEM 281	(14) -3 -1 -3 -1 -3 -3 -3	OTHER HIST 417 ^G SE 101 COMM 210 ART elective (Mus,Art,Dnc,Thea)	$ \begin{array}{c} (11) \\ \underline{3} \\ \underline{2} \\ \underline{3} \\ \underline{3} \\ \underline{3} \\ 120 \end{array} $
ENGLISH ENGL 101 *ENGL 102 ENGL 230 or 231 or 232	(9) 3 3 3 3 3		
¹ MATHEMATICS * ¹ MATH 161 (or MATH 151) *MATH 162 or 165	$ \begin{array}{c} (6) \\ \underline{3} \\ \underline{3} \\ \end{array} $		

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.

¹CHEM 121 and MATH 151 or 161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.

II. Upper-level Courses for the Biology Education Concentration 20 CREDIT HOURS required

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

*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

*ZOO 302 Comparative Anatomy 4 hrs

*ZOO 392 Animal Physiology 4 hrs

CURRICULUM IN BIOLOGICAL SCIENCES BUSINESS CONCENTRATION

YEAR: 2018 / 2019

NAME:

MAJOR HOUR Core Requirem	RS (41) <u>C or Better²</u> ents (21 hrs)
GBIO 151	3
BIOL 152	_1
GBIO 153	3
BIOL 154	1
MIC 205	3
MICL 207	1
² GBIO 200	3
² GBIO 312	3
GBIO 241	1
GBIO 341	_1
GBIO 441**	_1

Upper-level Courses (20 hrs) page 2

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MATHEMATICS (9)		
^{1,2} MATH 161	3	
MATH 162	3	
MATH 163	3	

or ¹ MATH 16	55 and 200 (8 hrs)
MATH 165	3	
MATH 200	5	

ENGLISH (12))
ENGL 101	
or 121H	_3
ENGL 102	
or 122H	_3
ENGL 230 or 22	31 or 232
	_3
ENGL 322	_3

FOR. LANGUAGES (6)

101 3102 3

CONCENT. COURSES (9)

²MRKT 303 or MGMT 351 (3)

²<u>ACCT 200 (3)</u>

²FIN 381 (3)

YEAR ENTERED SLU:

W#

⁴SOCIAL SCIENCES (6) (Anth. Econ Geogr Psyce Polis See)

(Anth, Econ,Geog, I	Psyc, Poli, Soc)
ECON 201	3
ECON 202	3

PHYSICS	(8)
PHYS 191_	3
PLAB 193	1
PHYS 192	3
PLAB 194	1

ELECTIVE (1) (1)

OTHER (12)

ART ELECTIVE (Mus,Art,Dnc,Thea)

	3	
LS 102	1	
COMM211	3	
HIST	3	
SE 101	2	
SE 101 is not required of		
transfer or readmitted students		

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)

CHEMISTRY (16)

² CHEM 121	3
CLAB 123	1
CHEM 122	33
CLAB 124	1
³ CHEM 261	3
³ CLAB 263	1
³ CHEM 281	3
³ CLAB 283	1

TOTAL HOURS 120

<u>NOTES</u>: ¹Students with Math ACT <21 take MATH 151 in place of MATH 161. Students who are eligible may take MATH 165 and 200 (8 credit hours) 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., 11 hrs instead of 10 hrs).

²Grade of "C" or better in CHEM 121, MATH 151/161, ACCT 200, FIN 381, and MRKT 303 or MGMT 351, and all Biology courses is required. CHEM 121 and MATH 151/161 are prerequisites for GBIO 200, and GBIO 200 is a prerequisite for GBIO 312.

³Students 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. Also, CHEM 265/267 can NOT be used as prerequisites for CHEM 281/283.

⁴Students in the Business Concentration should take ECON 201 and ECON 202 for the Social Sciences requirement. **GBIO 441 fulfills requirement for computer literacy

		AVE	RAGES	
ADDITIONAL COURSES:	HA	HE	QP	Average
	CUM:			
	(Adj)			
	MAJOR			
	(Adj)			
	SLU:			
	(Adj)			

BUSINESS CONCENTRATION

I. Core Courses (page 1): 21 CREDIT HOURS (Grade of "C" or better required in all courses) II. Upper-level Courses: 20 CREDIT HOURS from the following courses with approval of advisor (Grade of "C" or better required in all courses) **GBIO 377** is required for the Business Concentration GBIO 377 Applied Biostatistics 4 hrs 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 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 GBIO 410 Introduction to Population Genetics 4 hrs GBIO 418 Community Ecology 4 hrs GBIO 439 Introduction to Fresh Water & Estuarine Biology 4 hrs GBIO 434 Molecular Biology and Biotechnology 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: 2018 / 2019

NAME:_____

YEAR ENTERED SLU:

additional hrs of electvies (i.e., 12

hrs instead of 10 hrs).

W#

MAJOR HOURS (41) <u>C or Better²</u> Core Requirements (21 hrs) GBIO 1513 BIOL 1521 GBIO 1533	MATHEMATICS (9) ^{1,2} MATH 1613 MATH 1623 MATH 1633	SOCIAL SCIENCES (6) (Anth, Econ,Geog, Psyc, Poli, Soc) 33
BIOL 154 1 MIC 205 3 MICL 207 1 ² GBIO 200 3 ² GBIO 312 3	or ¹ MATH 165 and 200 (8) MATH 165 <u>3</u> MATH 200 <u>5</u>	PHYSICS (8)
GBIO 2411 GBIO 3411 GBIO 441** 1 Upper-level Courses (20 hrs) page 2	ENGLISH (12) ENGL 101 or 121H3 ENGL 102	PHYS 1913 PLAB 1931 PHYS 1923 PLAB 1941
	$\begin{array}{r} \text{or } 122\text{H} \underline{3} \\ \text{ENGL } 230 \text{ or } 231 \text{ or } 232 \\ \underline{3} \\ \text{ENGL } 322 \underline{3} \\ 3 \\ \end{array}$	
CHEMISTRY (16) ² CHEM 1213	FOR. LANGUAGES (6)	OTHER (12) ART ELECTIVE (Mus,Art,Dnc,Thea)3
CLAB 123 1 CHEM 122 3 CLAB 124 1 ³ CHEM 261 3 ³ CLAB 263 1	1023 ELECTIVES (10)	LS 102 1 COMM211 3 HIST 3 SE 101 2 SE 101 is not required of
³ CHEM 2813 ³ CLAB 2831		transfer or readmitted students with 30 hrs or more. These students are required to take two

TOTAL HOURS 120

NOTES: ¹Students with Math ACT <21 take MATH 151 in place of MATH 161. Students who are eligible may take MATH 165 and 200 (8 credit hours) 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., 11 hrs instead of 10 hrs). ²Grade 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. ³Students 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. Also, CHEM 265/267 can NOT be used as prerequisites for CHEM 281/283.

**GBIO 441 fulfills requirement for computer literacy

ADDITIONAL C	OURSES:
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	HA	HE	QP	Average	
 CUM:					
(Adj)					
MAJOR					
(Adj)					
SLU:					
(Adj)					

AVERAGES

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 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 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 Animal 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: 2018 / 2019		YEAR ENTERED SLU:
NAME:		W#
MAJOR HOURS (41) <u>C or Better²</u> Core Requirements (21 hrs) GBIO 1513 BIOL 1521 GBIO 1533 DIOL 1541	MATHEMATICS (9) ^{1,2} MATH 1613 MATH 1623 MATH 1633	⁴ SOCIAL SCIENCES (6) (Anth, Econ,Geog, Psyc, Poli, Soc) 33
BIOL 154 1 MIC 205 3 MICL 207 1 ² GBIO 200 3 ² GBIO 312 3 GBIO 241 1	or ¹ MATH 165 and 200 (8 hrs) MATH 1653 MATH 2005	PHYSICS (8) PHYS 1913
GBIO 341 1 GBIO 441** 1 Upper-level Courses (20 hrs) page 2	ENGL 101 or 121H3 ENGL 102 or 122H3	PLAB 1931 PHYS 1923 PLAB 1941
 	ENGL 230 or 231 or 232 3 ENGL 3223	OTHER (12) ART ELECTIVE (Mus,Art,Dnc,Thea)
CHEMISTRY (16) ² CHEM 121 3 CLAB 123 1 CHEM 122 3	FOR. LANGUAGES (6) 101 3 102 3	3 LS 102 1 COMM211 3 HIST 3 SE 101 2 SE 101 is not required of
CLAB 124 1 ³ CHEM 261 3 ³ CLAB 263 1 ³ CHEM 281 3 ³ CLAB 283 1	⁴ ELECTIVES (10)	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: ¹Students with Math ACT <21 take MATH 151 in place of MATH 161. Students who are eligible may take MATH 165 and 200 (8 credit hours) 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., 11 hrs instead of 10 hrs). ²Grade 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. ³Students 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. Also, CHEM 265/267 can NOT be used as prequisites for CHEM 281/283.

⁴Students 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

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

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 ⁴GBIO 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 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 MICROBIOLOGY / MOLECULAR BIOLOGY CONCENTRATION

YEAR: 2018 / 2019 YEAR ENTERED SLU: NAME: W# MAJOR HOURS (41) C or Better² **MATHEMATICS (9)** SOCIAL SCIENCES (6) **Core Requirements** (21 hrs) ^{1,2}MATH 161 3 (Anth, Econ, Geog, Psyc, Poli, Soc) GBIO 151 3 MATH 162 3 3 BIOL 152 1 MATH 163 3 3 GBIO 153 3 BIOL 154 1 MIC 205 3 or ¹MATH 165 and 200 (8) MICL 207 MATH 165 3 1 ²GBIO 200 3 MATH 200 5 ²GBIO 312 PHYSICS (8) 3 GBIO 241 PHYS 191 1 GBIO 341 PLAB 193 1 1 GBIO 441** PHYS 192 1 ENGLISH (12) 3 PLAB 194 **ENGL 101** 1 Upper-level Courses (20 hrs) page 2 or 121H 3 ENGL 102 _____ ____ or 122H ENGL 230 or 231 or 232 _____ 3 ENGL 322 3 _____ **OTHER (12)** CHEMISTRY (20) FOR. LANGUAGES (6) ART ELECTIVE (Mus,Art,Dnc,Thea) ²CHEM 121 101 3 3 LS 102 CLAB 123 102 3 1 CHEM 122 _____ COMM211 3 CLAB 124 HIST____3 1 CHEM 265 3 SE 101 2 CLAB 267 1 **ELECTIVES (6)** SE 101 is not required for transfer CHEM 266 or readmitted students with 30 hrs 3 CLAB 268 1 or more. These students are CHEM 481 3 required to take two additional hrs

TOTAL HOURS 120

1

CLAB 485

NOTES: ¹Students with Math ACT <21 take MATH 151 in place of MATH 161. Students who are eligible may take MATH 165 and 200 (8 credit hours) 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., 7 hrs instead of 6 hrs). ²Grade 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. **GBIO 441 fulfills requirement for computer literacy

of electives (i.e., 8 hrs instead of

6 hrs)

ADDITIONAL COURSES:	AVERAGES				
	HA HE QP Average	ge			
	CUM:	-			
	(Adj)				
	MAJOR				
	(Adj)				
	SLU:				
	(Adj)				

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 4hrs GBIO 314 Genetics Laboratory 2 hrs **GBIO 377 Applied Biostatistics 4hrs** GBIO 408 Computational Biology 4 hrs GBIO 434 Molecular Biology and Biotechnology 4 hrs 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: 2018 / 2019		YEAR ENTERED SLU:
NAME:		W#
MAJOR HOURS (41) <u>C or Better²</u> Core Requirements (21 hrs) GBIO 1513 BIOL 1521 GBIO 1533 BIOL 1541	MATHEMATICS (9) ^{1,2} MATH 1613 MATH 1623 MATH 1633	SOCIAL SCIENCES (6) (Anth, Econ,Geog, Psyc, Poli, Soc) 3 3
MIC 205 3 MICL 207 1 ² GBIO 200 3 ² GBIO 312 3	or ¹ MATH 165 and 200 (8 hrs) MATH 1653 MATH 2005	PHYSICS (8)
GBIO 241 1 GBIO 341 1 GBIO 441** 1 Upper-level Courses (20 hrs) page 2	ENGLISH (12) ENGL 101 or 121H3	PHYS 1913 PLAB 1931 PHYS 1923 PLAB 1941
	ENGL 102 or 122H <u>3</u> ENGL 230 or 231 or 232 <u>3</u> ENGL 322 <u>3</u>	
		OTHER (12) ART ELECTIVE (Mus,Art,Dnc,Thea)
CHEMISTRY (16) ² CHEM 1213 CLAB 1231	FOR. LANGUAGES (6)	3 LS 102 1 COMM211 3 HIST 3 SE 101 2 SE 101 is not required of
CHEM 122 3 CLAB 124 1 ³ CHEM 261 3 ³ CLAB 263 1 ³ CHEM 281 3 ³ CLAB 283 1	ELECTIVES (10)	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: ¹Students with Math ACT <21 take MATH 151 in place of MATH 161. Students who are eligible may take MATH 165 and 200 (8 credit hours) 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., 11 hrs instead of 10 hrs). ²Grade 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. ³Students 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. Also, CHEM 265/267 can NOT be used as prequisites for CHEM 281/283.

AVERAGES

**GBIO 441 fulfills requirement for computer literacy ADDITIONAL COURSES:

	HA	HE	QP	Average
CUM:				
(Adj)				
MAJO	R			
(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 408 Computational Biology 4 hrs GBIO 418 Community Ecology 4 hrs GBIO 434 Molecular Biology and Biotechnology 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