COLLEGE OF LIBERAL ARTS AND SCIENCES (CLAS) ACADEMIC ADVISING CENTER 2015-2016

BIOLOGY-BA OR BS-WILDLIFE

The BA degree requires 3rd semester proficiency in a foreign language (201 level).

THIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

Year One			
BIO 120 General Biology I Prerequisites: High school chemistry, CHM 109, or CHM 115 strongly recommended (CHM 109 or 115 may be taken concurrently)	4 *(6)*	**BIO 121** General Biology II Prerequisite: None	4 *(6)*
CHM 115 Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)	4 *(6)*	**CHM 116** Principles of Chemistry II Prerequisites: CHM 115 and (MTH 122 or MTH 125 or MTH 201)	5 *(7)*
[1]**MTH 122** College Algebra Prerequisite: MTH 110 or assignment through Grand Valley math placement	3	[1]**MTH 123** Trigonometry Prerequisite: MTH 122 or assignment through Grand Valley math placement (MTH 122 may be taken concurrently)	3
		WRT 150 Strategies in Writing	4
Gen Ed	3		
Numbers noted within (parentheses) are contact hours *Total*	*14*	*Total*	*16**
Year Two			
BIO 215 General Ecology Prerequisite: BIO 120 and 12 college credits	4 *(6)*	**BIO 375** Genetics and **BIO 376** Genetics Laboratory Prerequisites: BIO 120. Concurrent enrollment in BIO 376 is required	4 *(6)*
[2]**CHM 231** Introductory Organic Chemistry Prerequisite: CHM 109 or CHM 116	4 (7)	[2]**CHM 232** Biological Chemistry Prerequisite: CHM 231	4 *(7)*
***OR* CHM 241** Organic Chemistry for Life Sciences I Prerequisite: CHM 116	5 *(7)*	***OR* CHM 242** Organic Chemistry for Life Sciences II Prerequisite: CHM 241	4 *(6)*
[3]MTH Cognate Course	3	Gen Ed	3
Gen Ed	3	Gen Ed	3
[4]Elective (if taking CHM 231)	1	[4]Elective	1
Total	*15*	*Total*	*15*
Year Three			
CMB 405 Cell and Molecular Biology Prerequisites: (BIO 375 or 355), BIO 376, and (CHM 232 or CHM 242 or CHM 247) may be taken concurrently	4	[1]**PHY 221** General Physics II Prerequisite: PHY 220	5 *(7)*
[5]**CMB 406** SWS Cell and Molecular Biology Laboratory Prerequisites: CMB 405 (may be taken concurrently)	2 *(4)*	Gen Ed	3
BIO 222 Natural History of Vertebrates Prerequisite: BIO 121	3 *(5)*	Issue	3
[1]**PHY 220** General Physics I Prerequisites: MTH 122 and MTH 123	5 *(7)*	**BIO 308** Wildlife Ecology Prerequisite: BIO 215	4 *(6)*
***OR* PHY 200** Physics for the Life Sciences Prerequisite: MTH 110 or MTH 122 or MTH 201	4 *(6)*		
[4]Elective	1-2		
Total	*15-16**	*Total*	*15*
Year Four			
BIO 408 Wildlife Management Prerequisite: BIO/NRM 308	4 *(6)*	**BIO 495** Evolutionary Biology (Capstone) Prerequisites: Senior Standing, BIO 120, BIO 121, BIO 215, (BIO 375 or 355), BIO 376, (CHM 231 or 241 or 245)	3
BIO 333 Systematic Botany Prerequisite: BIO 121	4 *(6)*	**BIO 342** Ornithology Prerequisite: BIO 121	3 *(5)*
NRM 281 Principles of Soil Science	4 *(6)*	[4]Elective	3
Issue	3	Gen Ed	3
		Gen Ed	3
Total	*15*	*Total*	*15*

*The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

[1]MTH 122/123 are prerequisites for PHY 220 and are not part of the Biology major. If a student chooses to take PHY 200, MTH 123 does not need to be completed. PHY 221 is not required but students planning to attend graduate school, professional school, or to pursue secondary teacher certification should complete the PHY 220/221 sequence. ***To take the Math Proficiency Tests for MTH 122 and/or 123 online, visit this link: gvsu.edu/s/mv***

[2] If you plan to attend graduate or professional school you will want to complete the CHM 241/242 sequence.

[3] Choose one of the following to complete the math cognate for the major: MTH 125: Survey of Calculus, MTH 201: Calculus, or STA 215: Introductory Applied Statistics.
[4] Elective refers to any course that will help you earn the required 120 credits to graduate.
[5] Students must complete a total of two courses with an SWS attribute

Declaring the Biology-Wildlife Major:

1. In myBanner, select "Student" > "Student Records" > "Change Major" > "Change Major 1/Program"
2. Choose "Biology-BA or Biology-BS Wildlife" from the drop-down box.
3. Click "Submit" and then "Change to New Program"

General Education Categories fulfilled by the Biology major:
Life Science and Physical Science: BIO 120 and CHM 115 (both fulfill lab requirement)
Mathematical Sciences: STA 215, MTH 122, MTH 123, MTH 201

Biology Elective Courses *All BIO majors require a total of 38 credits of BIO classes, including CMB 405+406.* *Classes listed below can be taken, if needed, to complete this requirement.*		
Plant Biology BIO 243 Plant Identification and Natural History (3) BIO 303 Plant Morphology (4) BIO 323 Aquatic and Wetlands Plants (3) BIO 333 Systematic Botany (4) BIO 403 Plant Structure and Function (4) BIO 413 Freshwater Algae (3) BIO 423 Plant Biotechnology (3) BIO 433 Plant Ecology (4) BIO 473 Ecology and Evolution of Plant-Animal Interactions (3) BIO 573 Plants of the Great Lakes Area (3)-*with permission*	**Animal Biology** BIO 222 Natural History of Vertebrates (3) BIO 232 Natural History of Invertebrates (3) BIO 272 Insect Biology and Diversity (3) BIO 302 Comparative Vertebrate Anatomy (4) BIO 342 Ornithology (3) BIO 352 Animal Behavior (3) BIO 362 Fisheries Biology (4) BIO 380 Principles of Animal Nutrition (3) BIO 402 Aquatic Insects (3) BIO 412 Mammalogy (4) BIO 422 Embryology (3) BIO 432 Comparative Animal Physiology (4) BIO 572 Field Zoology (3)-*with permission* BMS 208/309 Human Anatomy and Lab (4) BMS 290/291 Human Physiology and Lab (4)	*The following courses are excluded from the biology major:* BIO 104 Biology for the 21st Century BIO 105 Environmental Science BIO 107 Great Lakes and Other Water Resources BIO 109 Plants in the World BIO 205 Genetics for K-8 Pre-Service Teachers Any other biology course whose description prevents it from being used in the major *Only ONE of the following courses may be counted in the biology major:* BIO 309 Plants and Human Health (3) BIO 311 Biological Basis of Society (3) BIO 329 Evolution of Social Behavior (3) BIO 349 The Darwinian Revolution (3)
Additional Biology Electives		
BIO 280 Special Topics in Biology (1-4) BIO 308 Wildlife Ecology (4) BIO 319 Global Agricultural Sustainability (3) BIO 325 Human Sexuality (3) BIO 328 Biomedical Ethics (3)* BIO 338 Environmental Ethics (3) * *only one of BIO 328 or 338 may be used as elective credit in the major* BIO 357 Environmental Microbiology (4) BIO 380 Special Topics in Biology (1-4)	BIO 390 Seminar (1) BIO 399 Selected Experiences in Biology (1-4) BIO 408 Wildlife Management (4) BIO 416 Advanced Genetics Laboratory (2) BIO 417 International Field Biology (1-4) BIO 418 Regional Field Biology (1-4) BIO 440 Limnology (4) BIO 442 Fish Ecology (3) BIO 450 Stream Ecology (4) BIO 452 Human Evolution (3)	BIO 460 Terrestrial Ecosystem Ecology (4) BIO 470 Conservation Biology (3) BIO 480 Special Topics in Biology (1-4) BIO 490 Internship (1-6) BIO 499 Research in Biology (1-4) BMS 212 Microbiology (3) AND BMS 213 Microbiology Laboratory (1) *The following CMB courses can count as electives with faculty advisor approval:* CMB 411 Genetics of Development & Cancer (3) CMB 414 Molecular Biology of the Gene (3) CMB 426 Nucleic Acids Laboratory (3)

It is imperative to meet with your faculty advisor and an advisor in the CLAS Academic Advising Center regularly.

The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585

http://www.gvsu.edu/clasadvising

CLAS Academic Advisors:

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