

Biology (2012-2013)

Aquatic Sciences

This is a **general curriculum** guide and is not applicable to every student and is not a replacement for meeting with your advisor.

-Assumes that the MTH 110 prerequisite has been fulfilled-

Fall Semester – Year One	credits	Winter Semester- Year One	credits
BIO 120: General Biology I (<i>Gen Ed</i>)	4	BIO 121: General Biology II	4
CHM 115: Principles of Chemistry I (<i>Gen Ed</i>)	5	CHM 116: Principles of Chemistry II	5
MTH 122: College Algebra (<i>Gen Ed</i>) ³	3	WRT 150: Strategies in Writing	4
Gen Ed.	3	MTH 123: Trigonometry ³	3
Total	15	Total	16*
Fall Semester – Year Two	credits	Winter Semester – Year Two	credits
BIO 215: General Ecology	4	BIO 375/376: Genetics/Genetics Lab	4
CHM 231: Introductory Organic Chemistry	4	BIO Elective ²	3
Or¹		CHM 232: Biological Chemistry	4
CHM 241: Organic Chemistry for Life Science I	4	Or¹	
MTH Cognate ⁵	3	CHM 242: Organic Chemistry for Life Science II	4
Gen Ed.	3	Gen Ed.	3
Total	14	Total	14
Fall Semester – Year Three	credits	Winter Semester – Year Three	credits
BIO 440: Limnology ⁵	4	BIO Elective ²	3
BIO Elective ²	4	PHY 221: General Physics II ³	5
PHY 220: General Physics I ³	5	Gen Ed.	3
Gen Ed. or Theme	3	Gen Ed. or Theme	3
Total	16*	Total	14
Fall Semester – Year Four	credits	Winter Semester – Year Four	credits
BIO 450: Stream Ecology ⁴	4	BIO 405/406: Cell and Molecular Bio. w/lab (SWS)	6
Elective	3	BIO 495: Evolutionary Biology	3
Elective	3	Elective	3
Gen Ed. or Theme	3	Gen Ed. or Theme	3
Gen Ed. or Theme	3		
Total	16*	Total	15

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

Notes:

¹ If you plan to attend graduate or professional school, you will want to complete the CHM 241/242 sequence.

² Three courses must be chosen as your electives from the following three categories: Category 1: BIO 362 Fisheries Biology – OR – BIO 442 Fish Ecology; Category 2: BIO 232 Natural History of Invertebrates – OR – BIO 402: Aquatic Insects; Category 3: BIO 323 Aquatic Plants – OR – BIO 413 Freshwater Algae. BIO 323, 362, 440, and 450 are offered in the fall. BIO 232, 372, 413 and 442 are offered in the winter.

³ MTH 122/123 are prerequisites for PHY 220 and not part of the Biology major. PHY 221 is not required, but students planning to attend graduate school, professional school, or secondary teacher certification should complete a full year of physics.

⁴ BIO 440 and BIO 450 are offered alternating Fall semesters.

⁵ Choose one of the following to complete the math cognate for the Major: MTH 125: Survey of Calculus, MTH 201: Calculus and Analytical Geometry, or STA 215: Introductory Applied Statistics.

Special Notes:

A. This is a **general** curriculum guide and will not work for everyone, especially those students who have AP, IB or CLEP credit. For students without high school chemistry, CHM is strongly encouraged.

B. Courses that have (*Gen Ed*) written after them are classes that are required in the major and also fulfill a section of the general education program.

C. Students must complete a total of two courses with an SWS attribute.

It is imperative to meet with your faculty advisor or an advisor in the CLAS Academic Advising Center early in your career.

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

Online at: <http://www.gvsu.edu/clasadvising>

Prepared by CLAS Academic Advising Center – 1/23/12