Biology (2012-2013)

Genetics and Cell/Molecular

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

-**Student needs MTH 110 prerequisite**-

Fall Semester –Year One	**credits**	**Winter Semester – Year One**	**credits**
BIO 120: General Biology I *(Gen Ed)*	4	BIO 121: General Biology II	4
MTH 110: Algebra	4	CHM 115: Principles of Chemistry I *(Gen Ed)*	5
WRT 150: Strategies in Writing	4	MTH 122: College Algebra *(Gen Ed)*[2]	3
Gen Ed.	3	Gen Ed.	3
Total	**15**	***Total***	**15**
Spring Semester – Year One	**credits**	**Summer Semester – Year One**	**credits**
Chemistry 116: Principles of Chemistry II	5	Gen Ed.	3
Fall Semester – Year Two	**credits**	**Winter Semester – Year Two**	**credits**
BIO 215: General Ecology	4	BIO 375/376: Genetics/Genetics Lab	4
CHM 241: Organic Chemistry for Life Science I	4	CHM 242: Organic Chemistry for Life Science II	4
MTH 123: Trigonometry[2]	3	MTH Cognate[1]	3
Gen Ed.	3	Gen Ed.	3
Total	**14**	***Total***	**14**
Fall Semester – Year Three	**credits**	**Winter Semester – Year Three**	**credits**
BIO 405/406: Cell and Molecular Bio. w/lab *(SWS)*	6	BIO elective[3]	3
PHY 220: General Physics I[2]	5	BIO elective[3]	3
CHM 461: Biochemistry	4	PHY 221: General Physics II[2]	5
		Gen Ed.	3
Total	**15**	***Total***	**14**
Fall Semester – Year Four	**credits**	**Winter Semester – Year Four**	**credits**
BIO 422: Embryology OR	3	BIO 495:Evolutionary Biology	3
BIO 432: Comparative Animal Physiology	4	BIO 490/499: Internship/Research	3
BIO 426: Nucleic Acids Laboratory	3	BIO 423: Plant Biotechnology	3
BIO 490/499: Internship/Research	3	Gen Ed. or Theme	3
CHM 462: Techniques in Biochemistry	3	Gen Ed. or Theme	3
Gen Ed. or Theme	3		
Total	**15-16***	***Total***	**15**

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

Notes:

[1] 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.

[2] MTH 122/123 are prerequisites for PHY 220 and not part of the Biology major. PHY 221 is not required, but is strongly recommended.

[3] Students must select 2 out of the following classes: BIO 411: Genetics of Development and Cancer / 414: Molecular Biology of the Gene / 416: Advanced Genetics Laboratory.

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 109 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.

D. If your career goal is genetic counseling, a different set of courses may be more appropriate. Contact your advisor for assistance in course selection.

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