

# Biology (2012-2013)

## Secondary Teacher Certification

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 ( <i>Gen Ed</i> )	4	BIO 121: General Biology II	4
Gen Ed.	3	CHM 115: Principles of Chemistry I ( <i>Gen Ed</i> )	5
MTH 110: Algebra	4	<b>MTH 122: College Algebra</b> ( <i>see notes at bottom of page</i> ) <sup>4</sup>	3
WRT 150: Strategies in Writing	4	Gen Ed.	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>15</b>
Fall Semester – Year Two	credits	Winter Semester – Year Two	credits
BIO 215: General Ecology	4	BIO 375/376: Genetics/Genetics Lab	4
CHM 116: Principles of Chemistry II	5	BIO elective	3
PSY 101: Introduction to Psychology ( <i>Gen Ed</i> )	3	ED 315: Diverse Perspectives on Ed.* ( <i>Gen Ed</i> )	3
<b>MTH 123: Trigonometry</b> ( <i>see notes at bottom of page</i> ) <sup>4</sup>	3	PSY 301: Child Development*	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16<sup>#</sup></b>
Spring Semester – Year Two	credits	Summer Semester – Year Two	credits
Minor Elective	3	Minor Elective	3
Gen Ed.	3	Gen Ed.	3
Fall Semester – Year Three	credits	Winter Semester – Year Three	credits
CHM 231: Introductory Organic Chemistry <b>OR</b> <sup>2</sup>	4	CHM 232: Biological Chemistry <b>OR</b> <sup>2</sup>	4
CHM 241: Organic Chemistry for Life Science I	4	CHM 242: Organic Chemistry for Life Science II	4
<b>PHY 200 : Physics for Life Sciences OR</b>	4	<b>PHY 221: General Physics II OR</b>	5
<b>PHY 220: General Physics I OR</b>	5	<b>PHY 231: Principles of Physics II</b> ( <i>see notes at bottom of page</i> ) <sup>4</sup>	5
<b>PHY 230: Principles of Physics I</b> ( <i>see notes at bottom of page</i> ) <sup>4</sup>	5	Gen Ed.	3
ED 337: Intro to Learning and Assessment*	3	Minor Elective	3
Minor Elective	3	<b>Total</b>	<b>15-16<sup>#</sup></b>
<b>Total</b>	<b>14/15</b>	<b>Total</b>	<b>15-16<sup>#</sup></b>
Spring Semester – Year Three	credits	Summer Semester – Year Three	credits
Minor Elective	3	Minor Elective	3
Fall Semester – Year Four	credits	Winter Semester – Year Four	credits
BIO 405/406: Cell and Molecular Bio. w/lab (SWS)	6	BIO 495: Evolutionary Biology	3
BIO elective <sup>3</sup>	4	BIO elective <sup>3</sup>	4
Gen Ed. or Theme	3	BIO elective	3
Minor Elective	3	Gen Ed. or Theme	3
<b>Total</b>	<b>16<sup>#</sup></b>	<b>Total</b>	<b>16<sup>#</sup></b>
Fall Semester – Year Five (Teacher Assisting)	credits	Winter Semester – Year Five (Student Teaching)	credits
ED 331: Methods and Strategies for Secondary Teaching	5	ED 431: Student Teaching, Secondary	10
ED 310: Organizing and Managing Classroom Environments	3	ED 485: The Context of Educational Issues	3
ED 321: Content Area Literacy	3		
ED 370: Technology in Education**	3		
ED 379: Universal Design for Learning: Secondary**	3		
<b>Total</b>	<b>17<sup>#</sup></b>	<b>Total</b>	<b>13</b>

<sup>#</sup>The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

### Notes:

\* These are the pre-admission courses to the College of Education and must be completed with a minimum cumulative GPA of 2.7. Secondary teacher certification students must also have a teachable minor. **Consult with your advisor for options!**

\*\* ED 370 and/or ED 379 may be taken during or after Teacher Assisting but must be taken before Student Teaching.

<sup>1</sup> 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.

<sup>2</sup> If planning to attend graduate or professional school, students are encouraged to complete the CHM 241/242 sequence.

<sup>3</sup> Students must choose at least one animal and one plant biology elective.

<sup>4</sup> MTH 122/123 are prerequisites for PHY 220 and not part of the Biology major. Certification students are encouraged, but not required, to take both PHY 220 and 221 or PHY 230 and 231. PHY 200 alone **will** fulfill the physics requirement for the biology major.

### Special Notes:

A. This is a **general** curriculum guide and will not work for everyone, especially those students who have AP or CLEP credit.

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

C. 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 – 3/8/12