## **Biology - Secondary Biology Education**

#### Major Requirements

Lower Division Requirements	Pre-Req	Units	Note
BIO146 General Biology I w/Lab	-	4	
BIO148 General Biology II w/Lab	-	4	Spring only
CHE115 General Chemistry I w/Lab	CHE102 or HS Chem	4	
CHE125 General Chemistry II w/Lab	CHE115	4	Spring only
MAT145 Math Methods in Natural Sciences	MAT115 or 135	4	Spring only
or MAT245 Analytical Geometry & Calculus I	MAT135 or 145	4	

Lower Division Physics Requirements	Pre-Req	Units	Note	
Complete one of the following two-semester sequence	es:			
PHY114 General Physics I w/Lab	MAT145 or 245	4	Fall only (entrance exam)	
PHY124 General Physics II w/Lab	PHY114	4	Spring only	
PHY214 Physics for Scientists I w/Lab	MAT145 or 245	4	Fall only (entrance exam)	
PHY224 Physics for Scientists II w/Lab	PHY214	4	Spring only	

Upper Division Requirements	Pre-Req	Units	Note
BIO313 Genetics	BIO146	4	
BIO330 Cell & Molecular Biology w/Lab	BIO146 & 148	4	Fall only
BIO380 Biology Seminar	-	1	Spring only
BIO499 Biology Capstone	Pre or Co: BIO380	2	Fall only
CHE351 Organic Chemistry I w/Lab	CHE125	4	Fall only
CHE352 Organic Chemistry II w/Lab	CHE351	4	Spring only

Concentration Requirements	Pre-Req	Units	Note
BIO114 General Botany w/Lab	-	4	Spring only
BIO302 Ecology w/Lab	BIO114, 143, or 146	4	Spring only (even years)
BIO344 Vertebrate Physiology w/Lab	BIO148 & CHE115	4	Spring only
PHY113 Astronomy	-	3	Fall only
PSC151 Introduction to Geosciences	-	3	

Total Major Units: \_\_\_\_65\_\_\_

Upper Division Major Units: 27

### General Education Requirements

<b>Competency Requirements</b>	Units	Note
English Competency	3	ENG113 required
Math Competency	3	MAT145 or 245 will fulfill. STA144 recommended.
Technology	3	CIS265 recommended
Foreign Language I	3	
Foreign Language II	3	

If you are exempt from a Competency Requirement, add those units to Additional Elective Units Needed.

Core Curriculum	Units	Note
Behavioral Science	6	
English Composition	3	ENG123 required
English or Film	3	
Communication Arts	3	
Art or Music	3	
Philosophy	3	
US History	3	
Non-US History	3	
Political Science	3	
Lab Science	4	BIO313 will fulfill. BIO101 recommended
Science or Kinesiology	4	BIO330 will fulfill
Christian Studies	9	

<sup>\*</sup>Course is interdisciplinary

<b>Upper Division Requirements</b>	12	BIO313 & 330 will fulfill 8 units
Multicultural Requirements	9	ENG123 will fulfill 3 units
Interdisciplinary Requirements	9	

Total Required GE units: 51

Upper Division Required GE Units: 6

Additional Elective Units Needed: 8

Upper Division Elective Units Needed: 6

#### About This Plan

- This plan is not a contract. Curriculum can be subject to change.
- · Highlighted courses and fields are major specific.
- Descriptions for all courses can be found in the CBU catalog at insidecbu.calbaptist.edu.
- To graduate, all students need 124 total units, 39 of which must be upper division.
- Courses numbered in the 300's and 400's are upper division.
- GST100, CHE102, ENG103, and MAT095 count as elective units.

#### **Contact Information**

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# Cbu Biology - Secondary Biology Education

	Freshman Year			Sophomore Year	
Fall Semester	<b>Spring Semester</b>	<b>Summer Semester</b>	Fall Semester	<b>Spring Semester</b>	<b>Summer Semester</b>
BIO146 General Biology I w/Lab	BIO148 General Biology II w/Lab 4		BIO330 Cell & Molecular Biology w/Lab	BIO114 General Botany w/Lab	
CHE102 Fundamentals of Chemistry 3	ENG123 Intermediate Composition 3		CHE115 General Chemistry I w/Lab	CHEM125 General Chemistry II w/Lab  4	
ENG113 Composition 3	General Education Course 3		Upper Division General Education Course 3	MAT145 or MAT245 4	
GST100 Focus 1	General Education Course 3		General Education Course 3	General Education Course 3	
General Education Course (or Math Course if needed) 3	General Education Course 3		General Education Course 3	Elective 1	
Total Units: 14	Total Units: 16	Total Units:	Total Units: 17	Total Units: 16	Total Units:
2	Junior Year			Senior Year	
Fall Semester	Spring Semester	Summer Semester	Fall Semester	Senior Year Spring Semester	Summer Semester
BIO313 Genetics 4		Summer Semester	Fall Semester BIO499 Biology Capstone 2		Summer Semester
BIO313 Genetics 4 CHE351 Organic Chemistry I w/Lab 4	Spring Semester BIO344 or BIO302 (depending on year)  BIO380 Biology Seminar 1	Summer Semester		Spring Semester BIO302 or BIO344	Summer Semester
BIO313 Genetics 4 CHE351 Organic Chemistry 4	Spring Semester  BIO344 or BIO302 (depending on year)  BIO380 Biology Seminar  CHE352 Organic Chemistry II w/Lab  4	Summer Semester	BIO499 Biology Capstone 2 PHY113 Astronomy 3 PHY114 or PHY214 4	Spring Semester BIO302 or BIO344 (depending on year)  4	Summer Semester
BIO313 Genetics 4  CHE351 Organic Chemistry I w/Lab  Upper Division General 3	Spring Semester  BIO344 or BIO302 (depending on year)  BIO380 Biology Seminar  CHE352 Organic Chemistry II w/Lab  Upper Division General Education Course  3	Summer Semester	BIO499 Biology Capstone 2 PHY113 Astronomy 3 PHY114 or PHY214 4 PSC151 Introduction to Geosciences 3	Spring Semester           BIO302 or BIO344 (depending on year)         4           PHY124 or PHY224         4           Upper Division General         3	Summer Semester
BIO313 Genetics 4  CHE351 Organic Chemistry I w/Lab 4  Upper Division General Education Course 3	Spring Semester  BIO344 or BIO302 (depending on year)  BIO380 Biology Seminar  CHE352 Organic Chemistry II w/Lab  Upper Division General  3	Summer Semester	BIO499 Biology Capstone 2  PHY113 Astronomy 3  PHY114 or PHY214 4  PSC151 Introduction to Geosciences Upper Division General Education Course 3	Spring Semester  BIO302 or BIO344 (depending on year)  PHY124 or PHY224  Upper Division General Education Course  3	Summer Semester
BIO313 Genetics 4  CHE351 Organic Chemistry I w/Lab 4  Upper Division General Education Course 3	Spring Semester  BIO344 or BIO302 (depending on year)  BIO380 Biology Seminar  1  CHE352 Organic Chemistry II w/Lab  Upper Division General Education Course  Upper Division General 3	Summer Semester	BIO499 Biology Capstone 2  PHY113 Astronomy 3  PHY114 or PHY214 4  PSC151 Introduction to Geosciences Upper Division General 3	Spring Semester  BIO302 or BIO344 (depending on year)  PHY124 or PHY224  Upper Division General Education Course  3	Summer Semester
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Total Units: 124 (124 units required to graduate)