

Saint Francis University Education Department  
Paradigm for Catalog Year 2021-2022

## BIOLOGY/SECONDARY EDUCATION CONCENTRATION

### Biology 7-12

#### Suggested Course Sequence - 129 Total Credits Needed for Graduation

FIRST YEAR FALL			CREDITS	FIRST YEAR SPRING			CREDITS
CORE 103	Fall Community Enrichment Series	0		CORE 104	Spring Community Enrichment Series	0	
BIOL 131	Biology Freshman Seminar	0		CORE 113	Gen Ed 1st Year Seminar	3	
BIOL 110	Evolution, Ecol, & Plant Biol.	4		BIOL 111	Molecules, Cells, & Anim. Phys	4	
CHEM 121	Chemistry Principles I	4		CHEM 122	Chemistry Principles II	4	
WRIT 102	Research Writing	3		RLST 105	Franciscan Goals for Today	3	
HIST	History Elective	3		EDUC 150	Educational Psychology	3	
PSYC 101	Introduction to Psychology	3					
<b>TOTAL</b>		<b>17</b>		<b>TOTAL</b>		<b>17</b>	
SECOND YEAR FALL			CREDITS	SECOND YEAR SPRING			CREDITS
BIOL105 OR BIOL 205	Human Biology Human Anatomy & Physiology	3-4		BIOL xxx	Cell Biology or Physiology Course Option	4	
CHEM 221	Organic Chemistry I	4		BIOL 203	Ecology	4	
*LIT 104	Intro to Literature	3		BIOL 231	Biology Sophomore Seminar	0	
EDUC 205	Intro to Special Education	3		MATH 112	Calculus	3	
EDUC 261	Linguistic Diversity in the Classroom	3		PHIL 205	Reason and Responsibility	3	
				EDUC 240	The Diverse Learner in Sec Settings	3	
<b>TOTAL</b>		<b>16-17</b>		<b>TOTAL</b>		<b>17</b>	
THIRD YEAR FALL			CREDITS	THIRD YEAR SPRING			CREDITS
EXAM 301	Writing Competency Exam (Completing WRIT 199 with a grade of C or better can also satisfy this requirement)	0		LANG	Foreign Lang. (102 or higher)	3	
BIOL 301	Genetics	4		BIOL XXX	Biological Diversity Course Option	4	
BIOL 331	Biology Junior Seminar	0		BIOL 402	Evolution	3	
PHYS 104	Intro to Physics	4		PHYS 101 or PHYS 102	Physical Sciences or Descriptive Astronomy	3	
STAT	Statistics Course	3		BIOL 431	Biology Senior Seminar	1	
SOSC	SOC SCI Elective (2of2)	3		EXAM 401	Dept. Comp. Exam	0	
EDUC 333	Reading in the Content Area	3		EDUC 429	Middle/Secondary Methods I	3	
<b>TOTAL</b>		<b>17</b>		<b>TOTAL</b>		<b>17</b>	
FOURTH YEAR FALL			CREDITS	FOURTH YEAR SPRING			CREDITS
BIOL 208	Animal Behavior	4		EDUC 450	Student Teaching	12	
PHIL 319	Philosophy, Ethics and Education	3		EDUC 407	Teacher as Reflective Practitioner (for Education Majors)	3	
EDUC 430	Methods II	3					
FNAR	Fine Art Elective	3					
<b>TOTAL</b>		<b>13</b>		<b>TOTAL</b>		<b>15</b>	

Six credits of Math and six credits of English are Pennsylvania Department of Education program Requirements

\*\*\*Course sequence may be altered with advisor consent

# students may want to take summer courses to lighten the load

\*LIT 104-Completing any of the following 200-level literature courses (LIT 201, 202, 204,207, 222, 274, and 270) can also satisfy this requirement. Any course taken for the fulfillment of this general education requirement may not count for the general education outer core or for a course within any major.

## **Biology Clusters**

F = Fall; S = Spring; Su = Summer; AN = As Needed

*At least 1 course is required from each cluster.*

*Note: BIOL 302 is required and satisfies the Molecules and Cells Cluster requirement.*

### Ecology Cluster

BIOL 203 – Ecology (F)- *Recommended for Educ maj*

BIOL 208 – Animal Behavior (F)

BIOL 220 – Conservation Biology (S)

BIOL 320 – Natural History of Vertebrates (AN)

BIOL 322 – Field Biology (S,Su)

BIOL 326 – Freshwater Aquatic Biology (F)

### Molecules and Cells Cluster

**BIOL 302 – Gen. Microbiology (S) (required)**

BIOL 305 – Immunology (S)

BIOL 401 – Cell & Molecular Biology (F)

BIOL 405 – Biochemistry (S)

BIOL 430 – Adv. Lab. Methods Molec. Bio. (S)

### Organismal Biology Cluster

BIOL 204 – Invertebrate Zoology (F)

BIOL 205 – Human Anatomy & Phys I (F)

BIOL 206 – Human Anatomy & Phys II (S)

BIOL 211 – Comparative Anatomy (F)

BIOL 212 – Developmental Biology (S)

BIOL 218 – Marine Biology (S)

BIOL 306 – Animal Nutrition (F)

BIOL 403 – Advanced Botany (F)

BIOL 406 – Vertebrate Physiology (S)

### **Secondary Education Elective Course:**

Any of the cluster courses above, or

BIOL 420-424 – Biology Research, or

Any 300-, 400-, or 500-level Biology course

### **Statistics Requirement can be fulfilled by:**

BIOL 315 – Biostatistics (S)

MATH 215 – Introductory Statistics (F,S)

STAT 205 – Essentials of Statistics (F,S)

*Many Secondary Ed. students opt to take*

*BIOL 205 & 206 Human Anatomy & Physiology*