

## Biological Sciences Major Requirements: **COMPUTATIONAL BIOLOGY**

This checklist serves as an advising tool for foundation and concentration requirements. It does not include CALS/A&S college requirements. Students are responsible for understanding all degree requirements, appropriate course sequencing and prerequisites and should consult the *Courses of Study* for additional information.

FOUNDATION REQUIREMENTS						
Course Subject	Course No.	Course Title	Credit Hours	Semester Taken	✓ when done	Notes
<b>Introductory Biology Cluster</b> (Take <b>TWO</b> of the three following courses) <i>*AP credit for biology does not count towards the major</i>						
BIOMG	1350	Principles of Cell & Developmental Biology	3			
BIOG	1440 or 1445	Introduction to Comparative Physiology or Individualized Instruction	3 4			
BIOEE	1610	Ecology and the Environment (*Also offered as summer course at Shoals Marine Lab)	3 (*4 cr. WIM option)			
<b>Investigative Laboratory</b>						
BIOG	1500	Biology Laboratory (*Also offered as summer course at Shoals Marine Lab)	2			
<b>Evolutionary Biology and Diversity</b>						
BIOEE	1780 or 1781	Evolutionary Biology & Diversity Introduction to Evolution and Diversity (*Also offered as summer course at Shoals Marine Lab)	4 4			
<b>General Chemistry</b> (CHEM 2070 & 2080 <b>OR</b> CHEM 2150)						
CHEM	2070	General Chemistry I &	4			
	2080	General Chemistry II	4			
CHEM	2150	Honors General and Inorganic Chemistry	4			
<b>College Mathematics</b> ( <b>TWO</b> courses are required: one calculus course <b>AND</b> one additional math course. Consult <i>Courses of Study</i> for acceptable math courses.)						
MATH	1106 or 1110	Calculus for the Life and Social Sciences or Calculus I	3 4			
XXXX	#####	Math/Calculus II/Statistics	3-4			
<b>Organic Chemistry</b> (CHEM 1570 <b>OR</b> CHEM 3570 & 3580 <b>OR</b> CHEM 3590 & 3600 <b>OR</b> CHEM 3530)						
CHEM	1570	Introduction to Organic & Biological Chemistry	3			
CHEM	3570	Organic Chemistry for the Life Sciences I &	3			
	3580	Organic Chemistry for the Life Sciences II	3			
CHEM	3590	Honors Organic Chemistry I	4			
	3600	Honors Organic Chemistry II	4			
CHEM	3530	Principles of Organic Chemistry	4			
<b>Physics</b> (PHYS 1101 & 1102 <b>OR</b> PHYS 2207 & 2208 <b>OR</b> PHY 1112 & 2213)						
PHYS	1101	General Physics I &	4			
	1102	General Physics II	4			
PHYS	2207	Fundamentals of Physics I &	4			
	2208	Fundamentals of Physics II	4			
PHYS	1112	Physics I: Mechanics & Heat &	4			
	2213	Physics II: Electromagnetism	4			
<b>Genetics and Genomics</b> (Lecture must be taken either concurrently or before the laboratory)						
BIOMG	2800	Lectures in Genetics and Genomics	3			
	2801	Laboratory in Genetics and Genomics	2			
<b>Biochemistry and Molecular Biology</b> (BIOMG 3300 <b>OR</b> BIOMG 3330 <b>OR</b> BIOMG 3350 <b>OR</b> BIOMG 3310 & 3320)						
BIOMG	3300	Principles of Biochemistry, Individualized Instruction	4			
BIOMG	3330	Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology	4			
BIOMG	3350	Principles of Biochemistry: Proteins, Metabolism and Molecular Biology	4			

BIOMG	3310	Biochemistry: Proteins and Metabolism &	3			
	3320	Biochemistry: Molecular Biology	2			

Consult the Biological Sciences section in *Courses of Study* for complete details regarding the major and for courses satisfying requirements. Also, consult college sections in *Courses of Study* for information on college requirements for graduation

CONCENTRATION REQUIREMENTS: Computational Biology						
*Students are expected to consult with their faculty advisor when choosing courses towards concentration requirements.						
Course Subject	Course No.	Course Title	Credit Hours	Semester Taken	✓ when done	Notes
<b>Required Courses</b> (Requires 1 computer programming course, 1 additional math course, one bridge course, and one advanced course. Consult Courses of Study for list of acceptable courses. *Many of the "bridging" or "advanced" courses are offered only in alternate years or irregularly – plan well in advance to satisfy these requirements. Some courses require calculus II as a prerequisite)						

## LONG-RANGE SCHEDULE PLANNER

	Fall	Spring	(Summer)
1 <sup>st</sup> Year			
2 <sup>nd</sup> Year			
3 <sup>rd</sup> Year			
4 <sup>th</sup> Year			