

Biological Sciences Concentration Summary								
Concentration	Minimum Credits*	Requires Lab	Requires 2 Semesters of Orgo Lecture	Requires Orgo Lab	Specific Math Requirement	Specific Biochem Requirement	BIOG 4990 Credits Applicable	Highlights
Animal Physiology	13	Yes (4 credits)	No	No	No	No	No	BIOAP 3110 (Principles of Animal Physiology) and BIOAP 3160 (Cellular Physiology) required plus a minimum of 7 credit hours selected from lecture and laboratory courses, of which at least 4 credit hours must be a laboratory course.
Biochemistry	16	Yes (BIOMG 4400)	Yes (or CHEM 3530)	Yes (CHEM 2510 or CHEM 3010)	Requires Calc I and Calc II	BIOMG 3310 and 3320 <u>or</u> BIOMG 3300 and BIOMG 3340	Yes (with approval; must be over at least 2 sem. with substantial biochemical component)	BIOMG 1350 recommended as freshman; CHEM 2070-2080 or CHEM 2150 should be completed first year; a course with a biochemical or biophysical orientation is required; Physical Chemistry is required; 5 credits of biochemistry required
Biodiversity and Systematics	13	Yes	No	No	No	No	Yes (see Courses of Study for further detail)	A minimum of 13 credits from groups A and B, including at least 7 credits from Group A and 3 from Group B and at least two laboratory courses (marked with * in Courses of Study)
Computational Biology	14	No	No	No	Yes	No	No	Courses in programming and math required. PHYS 2207-2208 sequence recommended; Many advanced courses have prerequisites and are offered alternate years, so plan ahead.
Ecology and Evolutionary Biology	13	No	No	No	No	No	No	Must take BIOEE 1610/BIOSM 1610 as one of core courses; Can earn credits (up to 6) at biological field station; Can earn credits from courses at Shoals Marine Lab or Organization for Tropical Studies (summer & winter sessions)
General Biology	13	Yes	No	No	No	No	Yes (2-3 credits with faculty advisor approval)	Explore at least three different concentrations: Minimum of two 3000 level or higher courses and at least one course with a lab or research (not including BIOG 1500, BIOMG 2801, or CHEM 2510)
Genetics, Genomics, and Development	13	No	No	No	No	No	Yes (up to 3 credits with faculty advisor approval)	Independent research recommended. Excellent for those who enjoyed 2800/2801 or are interested in studying development. Those who enjoy 2800/2801 may like BIOMG 3800: Advanced Genetics & Genomics.

*Minimum number of credits required *beyond* the foundation requirements for the Biological Sciences major; see Courses of Study for more info.

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Human Nutrition	13	No	No	No	No	No	No	NS 3310 (Nutrient Metabolism) required. Human Nutrition concentrators may not double-major in Nutritional Sciences.
Insect Biology	14	Yes	No	No	No	No	No	ENTOM 2120: Insect Biology is required; prerequisite for many upper-level courses; Insect Biology concentrators may not double-major in Entomology. Note: ENTOM 3350 - Naturalist Outreach Practicum, counts towards CALS oral comm requirement
Marine Biology	15	Fieldwork Required (DUS must approve)	No	No	No	No	Yes (for fieldwork with approval from DUS)	Introductory course required; Students must take courses from Group A and Group B; Significant field component required (can be fulfilled in a number of ways, e.g. at Shoals Marine Lab, through independent research, volunteer work, internship, and others, need DUS approval)
Microbiology	13	Yes (BIOMI 2911)	No	No	No	No	No	BIOMI 2900 and 2911 (General Microbiology Lecture and Lab). Many courses are cross-listed with BIOMS but note: Some courses that count towards the Microbial Sciences minor may not also count towards the major.
Molecular and Cell Biology	14	Yes (BIOMG 4400 or BIONB 4300)	Yes (or CHEM 3530)	No	No	BIOMG 3310 and 3320 <u>or</u> BIOMG 3300 and BIOMG 3340	Yes (up to 3 credits with faculty advisor approval)	BIOMG 4320 is required; CHEM 2070-2080 or CHEM 2150 should be completed the first year; BIOMG 1350 recommended as one cluster course; 5 credits of biochemistry required; Physical chemistry encouraged
Neurobiology and Behavior	15	No, but either lab or field work is strongly encouraged	No	No	No	No	Yes	Introductory courses in behavior (BIONB 2210) and neuroscience (BIONB 2220) required, must be taken for 4 credits each; one advanced BIONB 3+ credit course of 3000 level or higher; Special Topics discussion course (BIONB 4200) strongly encouraged; 4970, 4990 and topics courses may count for up to 4 credits toward the additional 7 credit requirement
Plant Biology	13	Yes	No	No	No	No	Yes	Two options are offered: (a) Botany-requires PLBIO 2410 (Introductory Plant Biodiversity and Evolution), PLBIO 3420&3421 (Plant Physiology Lecture&Lab) and 6 additional credits (b) Plant Biotechnology-requires PLBIO 3430 (Molecular Biology and Genetic Engineering of Plants) and PLBIO 3431 (Laboratory in Molecular Biology and Genetic Engineering of Plants), and PLBIO 3420 (Plant Physiology), and at least 7 additional credits

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