Biological Sciences: General Biology GENB (0404C) *effective August 2020*

A minimum of 120 credits earned and a 2.0 cumulative GPA is needed to meet University graduation requirements.
Major courses (Basic, Supporting, and Advanced) require a C– or better in each and a 2.0 average GPA.

1. Basic Program 15-16 credits

Sem	Gr	Cr	
		3	BSCI160 Ecology and Evolution ∗
		1	BSCI161 Ecology and Evolution Lab ∗
		3	BSCI170 Molecular and Cellular Biology ∗
		1	BSCI171 Molecular and Cellular Biology Lab ∗
		3	BSCI207 Principles of Biology III ∗
		4	BSCI222 Principles of Genetics ∗
		1	Freshmen seminar: UNIV100[1], HONR100, GEMS100, HLSC100, HACS100[2], HDCC105[2], HEIP143, HHUM105[3], BSCV181, IDEA101, BSGC100

[1] All Biological Sciences majors must take UNIV100 or another approved freshman seminar from the list above in their first semester.
[2] Two credit course. [3] Three credit course.
NOTE: Students who are enrolled in the Integrated Life Sciences Honors program will complete the following courses in lieu of the parenthetical course: HLSC207 (BSCI207), HLSC322 (BSCI222) and HLSC374 (BSCI374).
∗ These are required benchmark courses, see: http://bsci.umd.edu/benchmarks

2. Supporting Courses 32 credits

Sem	Gr	Cr	
		4	MATH135 Discrete Mathematics ∗
		4	MATH136 Calculus ∗ **OR**
		4	MATH140 Calculus I ∗
		4	MATH141 Calculus II ∗ **OR**
		4	MATH140 Calculus I ∗
		4	MATH135 Discrete Mathematics ∗
		3	CHEM131 General Chemistry I ∗
		1	CHEM132 General Chemistry I Lab ∗
		3	CHEM231 Organic Chemistry I ∗
		1	CHEM232 Organic Chemistry I Lab ∗
		3	CHEM241 Organic Chemistry II ∗
		1	CHEM242 Organic Chemistry II Lab ∗
		2	CHEM271 Gen Chem & Energetics ∗
		2	CHEM272 Bioanalytical Chem Lab ∗
		4	PHYS131 OR PHYS141 Physics I
		4	PHYS132 OR PHYS142 Physics II

3. General Education Requirements (at least 27 credits)

(For more information on General Education visit: www.gened.umd.edu.)
Fundamental Studies Math (MA), Analytic Reasoning (AR), Natural Sciences (NS) & Natural Sci. Lab (NL) are satisfied by major requirements.
Courses may double or triple count between Distributive Studies, I-Series, and Diversity.

Sem	Gr	Course	
			Fundamental Studies
			Academic Writing (AW) (ENGL101)
			Professional Writing (PW)
			Oral Communication (OC)
			Distributive Studies
			History and Social Sciences (HS)
			History and Social Sciences (HS)
			Humanities (HU)
			Humanities (HU)
			Scholarship in Practice (SP)
			Scholarship in Practice (SP) outside major
			I-Series
			I-Series (IS)
			I-Series (IS)
			Diversity
			Understanding Plural Societies (UP)
			Understanding Plural Societies (UP) **or** Cultural Competence (CC) (1–3 credits)

Summary of credits

Required	Completed
Basic Program (15–16)	_____
Supporting Courses (32)	_____
Gen. Ed. (27+)	_____
Advanced Program (27)	_____
Elective	_____
Subtotal	_____
Duplicate credits	_____
(Subtract from subtotal)	
Total Credits	_____

4. Advanced Program courses: Please see reverse page.

NOTES:

Student name _____ UID _____

Advisor's signature _____ Date of audit _____

NOTE: The curriculum in Biological Sciences changes as faculty review and improve the program. The curriculum descriptions provided here are the latest versions. Your curriculum may look slightly different depending on when you declared the Biological Sciences major. Your academic advisor can provide you with the most accurate information on which curriculum you are under. Any questions can be referred to the Undergraduate Academic Programs Office, 301-405-6892.

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General Biology GENB (0404C) Advanced Program

27 credits minimum ◆ At least two courses designated as **Lab** must be taken

1. Required courses: 6–7 credits

Sem	Gr	Cr	Biochemistry
		3	BCHM461 Biochemistry **OR** BCHM463 Biochemistry of Physiology

Sem	Gr	Cr	Quantitative Course: one from below
		3	BIOM301 Introduction to Biometrics
		4	BSCI374 Mathematical Modeling in Biology w/**Lab** [1]
		3	STAT400 Applied Probability & Statistics
		3	STAT464 Introduction to Biostatistics
		3–4	MATH240 or higher w/ advisor approval

2. GENB Area Courses: 20–21 credits

- At least one course (3 credits) from each of the categories 1, 2, and 3

Sem	Gr	Cr	1. Genetics & Evolution
		3	BCHM465 Biochemistry III
		2	BSCI339V Readings in Genetics
		3	BSCI339W Molecular Neuroethology
		3	BSCI370 Principles of Evolution
		3	BSCI402 Genomics of Sensory Systems
		3	BSCI405 Population and Evolutionary Genetics w/**Lab**
		3	BSCI407 Behavioral Genetics
		3	BSCI410 Molecular Genetics
		4	BSCI411 Bioinformatics and Integrated Genomics w/ **Lab**
		4	BSCI412 Microbial Genetics w/**Lab**
		3	BSCI414 Recombinant DNA **Lab**
		3	BSCI415 Molecular Genetics **Lab**
		3	BSCI416 Human Genetics
		4	BSCI470 Evolutionary Mechanisms
		3	BSCI471 Molecular Evolution
			2. Cell Biology, Development, Physiology
		3	BCHM462 Biochemistry II
		3	BCHM464 Biochemistry **Lab**
		4	BSCI330 Cell Biology & Physiology w/**Lab**
		3	BSCI339O: Readings in Developmental Biology
		3	BSCI339Q Diseases Due to Dysfunctional Cell Organelles
		3	BSCI339X Advanced Cellular Neuroscience
		3	BSCI342 Biology of Reproduction
		3	BSCI353 Principles of Neuroscience
		3	BSCI355 Neurobiology of Extraordinary Senses
		3	BSCI404 Cell Biology from a Biophysical Perspective
		3	BSCI406 Membranes and Biological Interfaces
		3	BSCI417 Microbial Pathogenesis
		3	BSCI420 Cell Biology Lectures
		3	BSCI422 Principles of Immunology
		2	BSCI423 Immunology **Lab** [2]
		4	BSCI424 Pathogenic Microbiology w/**Lab**
		2	BSCI425 Advanced Cell Biology **Lab** [2]
		3	BSCI430 Developmental Biology
		3	BSCI432 Systems View of Cell Biology
		3	BSCI433 Biology of Cancer
		3	BSCI437 General Virology
		4	BSCI440 Mammalian Physiology
		2	BSCI441 Mammalian Physiology **Lab** [2]
		4	BSCI442 Plant Physiology w/**Lab**

Sem	Gr	Cr	2. Cell Biology, Development, Physiology (continued)
		3	BSCI443 Microbial Physiology
		3	BSCI446 Neural Systems
		3	BSCI447 General Endocrinology
		3	BSCI452 Diseases of the Nervous System
		1	BSCI454 Neurobiology **Lab** [2]
			3. Ecology, Behavior & Organismal
		4	BSCI333 Principles of Paleontology w/**Lab**
		3	BSCI334 Mammalogy
		1	BSCI335 Mammalogy **Lab** [2]
		4	BSCI337 Insect Biology w/**Lab**
		3	BSCI338B Marine Biology
		3	BSCI348M Epidemiology of Microbial Pathogens
		3	BSCI360 Animal Behavior
		4	BSCI361 Principles of Ecology
		3	BSCI363 Biology of Conservation & Extinction
		1	BSCI364 Conservation Biology **Lab** [2]
		3	BSCI373 Natural History Chesapeake Bay
		3	BSCI392 Biology of Extinct Animals
		1	BSCI393 Biology of Extinct Animals **Lab** [2]
		3	BSCI401 Animal Communication
		3	BSCI403 Biology of Vision
		3	BSCI460 Plant Ecology
		2	BSCI461 Plant Ecology **Lab** [2]
		3	BSCI462 Population Ecology
		3	BSCI464 Microbial Ecology
		3	BSCI465 Behavioral Ecology
		4	BSCI467 Freshwater Biology w/**Lab**
		3	BSCI473 Marine Ecology
		3	BSCI475 Sexual Selection in Nature
		3	BSCI476 Evolutionary Genomics
		4	BSCI480 Arthropod Form and Function w/**Lab**
		4	BSCI481 Insect Diversity & Classification w/**Lab**
		3	BSCI483 Insects, Pathogens, and Public Health
		3	BSCI494 Animal-Plant Interactions
			Additional courses (Optional)
		4	BSCI223 General Microbiology [3] **OR** BSCI283 Principles of Microbiology [3]
		1	Departmental Honors Seminars [4]
			BSCI378H and BSCI398H **Special Topics Courses** [5] see Testudo
			BSCI328, 338, 339, 348 **Dept. Research Credit** [6]: BSCI379, 389, 399

[1] Formerly BSCI474, cross-listed as HLSC374. Credit will be given for either BSCI374, HLSC374 or BSCI474.
[2] Requires a "C-" or better in the pre-/co-requisite lecture to count as a **Lab**. Requires a "C-" or better in the pre/co-requisite lecture to satisfy the Area category.
[3] Credit will be given for either BSCI223 OR BSCI283. BSCI223/283 is a pre-requisite for some upper level BSCI courses. BSCI223/283 may count in the GENB Area credits but NOT as an upper-level lab.
[4] One credit of Departmental Honors seminar may be applied to major requirements. Additional Departmental Honors seminar credits count as electives.
[5] Special Topics courses allowed if specifically approved for upper level courses in GENB. See your advisor for applicability in a specific category above.
[6] Up to 3 credits of Departmental Research, including H and L versions, may be applied to major requirements. Additional research credits count as electives. Courses from other departments can be used with permission of advisor. Multiple semesters in research courses can possibly count for one of the two required lab lab courses. See your advisor for more details or ter.ps/reslabcredit

Total credits in Advanced Program: _____

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