Biological Sciences: Cell Biology and Genetics CEBG (0404A) *effective August 2023*

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 enrolled in the Integrated Life Sciences Honors program will complete the following courses in lieu of the parenthetical courses: 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 among 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.

Updated 3/2024

Cell Biology and Genetics CEBG (0404A) Advanced Program

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

1. Required courses: 16 credits

Sem	Gr	Cr	
		3	BCHM461 Biochemistry I
		3	BCHM462 Biochemistry II
		4	BSCI330 Cell Biology & Physiology w/**Lab**
		3	BSCI410 Molecular Genetics
		3	BSCI420 Cell Biology Lectures

2. CEBG Area courses: 8 credits

- One course (3 credits) from the Cell Biology Group and one course from the Genetics Group must be taken
- Other credits can be taken from any group

Sem	Gr	Cr	Cell Biology Courses
		3	BSCI343 Cellular Mechanisms of Aging and Disease
		3	BSCI353 Principles of Neuroscience
		3	BSCI404 Cell Biology from a Biophysical Perspective
		3	BSCI406 Membranes and Biological Interfaces
		3	BSCI417 Microbial Pathogenesis
		3	BSCI422 Principles of Immunology
		2	BSCI423 Immunology **Lab** [1]
		3	BSCI430 Developmental Biology
		3	BSCI432 Systems View of Cell Biology
		3	BSCI433 Biology of Cancer
		3	BSCI436 RNA Biology and Therapeutics
		4	BSCI442 Plant Physiology w/**Lab**
		3	BSCI443 Microbial Physiology
		3	BSCI455 Neuroscience **Lab**
			Genetics Courses
		3	BSCI381 Molecular Neuroethology
		3	BSCI402 Genomics of Sensory Systems
		3	BSCI405 Pop. and Evol. Genetics w/**Lab**
		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
		3	BCHM465 Biochemistry III

Sem	Gr	Cr	Additional CEBG Courses
		4	BSCI223 General Microbiology [2] **OR** BSCI283 Principles of Microbiology [2]
		2	BSCI339V Readings in Genetics
		4	BSCI374 Mathematical Modeling in Biol w/**Lab**
		2	BSCI427 Principles of Microscopy
		3	BSCI437 General Virology
		2	BSCI425 Advanced Cell Biol Practices **Lab** [1]
		3	BCHM464 Biochemistry **Lab**
			Statistics courses, one-course maximum
		3	BIOM301 Introduction to Biometrics
		3	STAT400 Applied Probability & Statistics
		3	STAT464 Introduction to Biostatistics
			Special Topics Courses [3]
			BSCI328 Special Topics ENTM Depart.
			BSCI338 Special Topics BIOL Depart.
			BSCI339 Selected Topics BIOL Depart
			BSCI348 Special Topics CBMG Depart.
			BSCI439 Adv. Special Topics BIOL Depart.
			Departmental Honors Seminar [4]
		1	BSCI 378H and BSCI398H

Total CEBG Area credits: _____

[1] Requires a "C–" or better in the pre-/co-requisite lecture to count as a **Lab**.
[2] BSCI223/283 may count in the CEBG Area credits but NOT as an upper level lab.
[3] Special Topics courses allowed if specifically approved for Advanced Program in CEBG. See your advisor or Testudo for applicability.
[4] One credit of Departmental Honors seminar may be applied to major requirements. Additional Departmental Honors seminar credits count as electives.

3. Enrichment 3 credits Enrichment Course: _____ Credits:_____ Semester:_____ Grade:_____

Minimum 3 credits from any 300- or 400-level BSCI, CHEM, or BCHM course.
Independent study or research courses from other departments can be used with the permission of your advisor.
Courses listed in the Advanced Program above can be used if they are not used to satisfy any category above.
Courses counted as Enrichment do not satisfy the 300- or 400-level laboratory requirement.
Independent study or research credits, including H and L versions, are acceptable up to a maximum of 3 credits overall in the Advanced Program.
Multiple semesters in research courses can possibly count for one of the two required lab courses. See your advisor for more details or ter.ps/reslabcredit
A maximum of 8 credits of any version of research credits (e.g., BSCI379, BSCI389, BSCI399) can be applied to one or more undergraduate degrees. Any research credits completed beyond the first 8 will be included in the total earned credits and factored into the GPA but **not applied to any undergraduate degree.**

Total credits in Advanced Program: _____

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