Name: _____ **BU ID:** _____

Specialization in Cell Biology, Molecular Biology & Genetics

Boston University College of Arts & Sciences
Department of Biology

REQUIREMENTS

- ✓ 128 credits including 11 biology courses; 8 related chemistry, math/computer science, and physics courses; second language proficiency; and 26 Hub units.
- ✓ C or higher is required for credit in all biology, math/computer science, and physics courses; C- or higher is necessary for credit in all required chemistry courses.
- ✓ Excluding Introductory Biology courses: a) at least three biology courses must have a laboratory component; b) at least three biology courses must be at the 300+ level; and c) at least five biology courses must be taken in the BU Biology Department.

INTRODUCTORY BIOLOGY

☐ BI 107 ☐ BI 108 **or** BI 116

FOUNDATION COURSES

☐ BI 213* **or** BI 203 **or** (BI 218 ◆)
☐ BI 216* **or** BI 206
☐ BI 552

* Recommended course

BREADTH REQUIREMENTS

Choose one course from each area of biology. Courses fulfilling breadth requirements may not also fulfill elective requirements.

Physiology & Neurobiology (PN)

☐ BI 310 ◆
☐ BI 315 ◆
☐ BI 325

◆ Course will count toward the three-lab requirement.

Ecology, Behavior & Evolution (EBE)

☐ BI 225 ☐ BI 303 ◆ ☐ BI 309
☐ BI 260 ☐ BI 306 ◆ ☐ BI 407 ◆

CMG ELECTIVES

See **Courses by Semester**, **Non-Departmental Courses**, and **Optional Programs** on SIDE II.

1 _____ 3 _____
2 _____ 4 _____

CHEMISTRY COURSES

See **Chemistry Requirements** on SIDE II.

1 _____ 3 _____
2 _____ 4 _____

MATH & COMPUTER SCIENCE COURSES

See **Math & Computer Science Requirements** on SIDE II.

1 _____ 2 _____

PHYSICS COURSES

See **Physics Requirements** on SIDE II.

1 _____ 2 _____

GENERAL EDUCATION REQUIREMENTS

For more details visit the CAS Degree Overview page.

CAS 2nd Language Requirement: _____

Proficiency through the fourth semester: ☐ I ☐ II ☐ III ☐ IV

BU Hub Units:

☐ PLM ☐ SI1 ☐ QR1 ☐ IIC ☐ FYW ☐☐ CRT
☐ AEX ☐ SO1 ☐ QR2 ☐☐ GCI ☐ WRI ☐☐ RIL
☐ HCO ☐ SI2/SO2 ☐ ETR ☐☐ WIN ☐☐ TWC
☐ OSC ☐☐ CRI
☐ DME

	FALL	SPRING
FIRST YEAR	1	1
	2	2
	3	3
	4	4
	SUM1	SUM2
SOPHOMORE YEAR	1	1
	2	2
	3	3
	4	4
	SUM1	SUM2
JUNIOR YEAR	1	1
	2	2
	3	3
	4	4
	SUM1	SUM2
SENIOR YEAR	1	1
	2	2
	3	3
	4	4
	SUM1	SUM2

Biology courses above with a lab component (excluding BI 107/108/116):
1 _____ 2 _____ 3 _____

Biology courses above that are 300+:
1 _____ 2 _____ 3 _____

Advisor Name: _____

Advisor Signature & Date: _____

Notes/Comments:

BIOLOGY COURSES BY SEMESTER

Note: Semester offerings may change. See the Course Directory and StudentLink for updated info. Courses cross-listed with those below are accepted.

Fall Semester Courses

Introductory Courses
BI 107 Biology 1

Foundation Courses
BI 203 Cell Biology
BI 206 Genetics
BI 213 Intensive Cell Biology
BI 218 Cell Biology with ISE Lab ◆
BI 552 Molecular Biology 1

Breadth Courses
BI 225 Behavioral Biology
BI 306 Bio. of Global Change ◆
BI 310 Human Structure & Function ◆
BI 315 Systems Physiology ◆
BI 325 Princ. of Neurosci.
BI 407 Animal Behavior ◆

CMG Electives
BI 309 Evolution
BI 310 Human Structure & Function ◆
BI 311 General Microbiology ◆
BI 315 Systems Physiology ◆
BI 325/(NE 203 ◆) Princ. of Neurosci.
BI 410 Developmental Biology
BB 421 Biochemistry 1 ◆
BI 445 Cell. & Mol. Neurophysiology ◆
BI 455 Developmental Neurobiology
BI 481 Molecular Bio. of the Neuron
BI 510 Inst. Racism in Health&Science
BI 513 Genetics Lab ◆
BI 515 Population Genetics
BI 525 Bio. Neurodegen. Diseases
BI 535 Trans. Research in Alzheimer's
BI 551 Stem Cells
BI 560 Systems Biology
BI 561 Proteostasis Bio. Neuro. Disease ◆
BI 565 Functional Genomics
BI 572 Advanced Genetics ❖
BI 589 Neural Impacts on Tumorigenesis

Spring Semester Courses

Introductory Courses
BI 108 Biology 2
BI 116 Biology 2 with ISE Lab

Foundation Courses
BI 203 Cell Biology
BI 206 Genetics
BI 216 Intensive Genetics

Breadth Courses
BI 225 Behavioral Biology
BI 260 Marine Biology
BI 303 Ecology ◆
BI 306 Bio. of Global Change ◆
BI 309 Evolution
BI 315 Systems Physiology ◆
BI 325 Principles of Neuroscience

CMG Electives
BI 315 Systems Physiology ◆
BI 325 Principles of Neuroscience
BI 328 Cell Bio & Translat. Medicine
BI 385 Immunology
BI 411 Microbiome
BB 422 Biochemistry 2 ◆
BI 481 Molecular Bio. of the Neuron
BB 522 Molecular Biology Lab ◆
BI 550 Marine Genomics ◆
BI 553 Molecular Biology 2
BI 559 Quantitative Microbiology
BI 565 Functional Genomics
BI 576 Carcinogenesis

◆ Course will count toward the three-lab requirement.
❖ Course typically offered every other year.
(MS) Course offered in Marine Semester (application required).
(IRR) Course offered irregularly.

CHEMISTRY REQUIREMENTS

Choose one sequence from each category.

General Chemistry

Sequence I	Sequence II	Sequence III
☐ CH 101	☐ CH 109	☐ CH 111
☐ CH 102/116	☐ CH 110	☐ CH 112

Organic Chemistry

Sequence I	Sequence II	Sequence III
☐ CH 203/218	☐ CH 203/218	☐ CH 211
☐ CH 204	☐ CH 214	☐ CH 212

Note: Pre-health students may need additional courses for medical or other professional school admission such as biochemistry BI/CH 421 or CH 373.

MATH & COMPUTER SCIENCE REQUIREMENTS

Choose two courses from the lists below. At least one course must be calculus or statistics.

Calculus	Statistics	Computer Science
☐ MA 121 **or** 123	☐ MA 115 **or** 213	☐ CS 105
☐ MA 122 **or** 124	☐ MA 116 **or** 214	☐ CS 108
☐ MA 127 **or** 129	☐ CDS DS 100	☐ CS 111
☐ MA 196		☐ CDS DS 110

PHYSICS REQUIREMENTS

Choose one sequence.

☐ PY 105 **and** PY 106
☐ PY 211 **and** PY 106
☐ PY 211 **and** PY 212
☐ PY 241 **and** PY 242

NON-DEPARTMENTAL COURSES

A maximum of two of the following courses can be used as electives for major credit:

CAS CH 373 Principles of Biochemistry
CAS CH 525 Physical Biochemistry
ENG BF 571 Dynamics and Evolution of Biological Networks
GMS BI 751 Biochemistry & Cell Biology

OPTIONAL PROGRAMS (Application Required)

Undergraduate Research

BI 140/141 Undergraduate Research in Biology 1 (2 cr)
BI 240/241 Undergraduate Research in Biology 2 (2 cr)
BI 340/341 Undergraduate Research in Biology 3 (2 cr)
BI 350-352 Undergraduate Research in Biology 3 (4 cr ◆)
BI 450-453 Undergraduate Research in Biology 4 (4 cr ◆)

BI 401/402 Honors Research in Biology (4 cr ◆)
BI 497/498 Honors Research in Biology Seminar (2 cr)

- Up to two of the above 4-credit research courses can count as electives; one of those can apply towards the three-lab requirement.
- For more info. visit www.bu.edu/biology/undergrad/research/

Science Abroad - Madrid, Spain and Grenoble, France

- Offered in the fall semester; courses taught in English.
- Targeted to sophomores in science majors/pre-med students.
- For more information, visit: www.bu.edu/abroad