

## BACHELOR OF SCIENCE IN BIOLOGY 2023-2024 DEGREE REQUIREMENTS

FIRST YEAR-FALL	HOURS
GT 1000 FRESHMAN SEMINAR*	1
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1551 DIFFERENTIAL CALCULUS	2
BIOS 1207 AND 1207L MAJORS BIOLOGICAL PRINCIPLES <sup>1</sup>	4
CHEM 1211K CHEMICAL PRINCIPLES I	4
<b>TOTAL SEMESTER HOURS</b>	<b>14</b>

SECOND YEAR-FALL	HOURS
BIOS 2300 ECOLOGY, BIOS 2600 GENETICS, OR BIOS 2610 INTEGRATIVE GENETICS <sup>3</sup>	3
BIOS 2301 ECOL LAB, BIOS 2601 GEN LAB, OR BIOS 2611 INTEGRATIVE GEN LAB <sup>3</sup>	1
CHEM 2311 ORGANIC CHEMISTRY I	3
MATH 1553 LINEAR ALGEBRA	2
COMPUTING REQUIREMENT OR HUM OR SS ELECTIVE	3
HUM OR SS ELECTIVE	3
CONSTITUTION AND HISTORY REQUIREMENTS <sup>4</sup>	(varies, see note below)
<b>TOTAL SEMESTER HOURS</b>	<b>14 or 15</b>

THIRD YEAR-FALL	HOURS
PHYS 2211 INTRODUCTORY PHYSICS I FOR LIFE SCIENCES	4
BIOS 3450 CELL & MOLECULAR BIOLOGY OR BIOS 3600 EVOLUTION <sup>6</sup>	3
BIOLOGY ELECTIVE	3
QUANTITATIVE BIOLOGY REQUIREMENT <sup>5</sup> OR HUM OR SS ELECTIVE	3
FREE ELECTIVE	3
<b>TOTAL SEMESTER HOURS</b>	<b>16</b>

FOURTH YEAR-FALL	HOURS
BIOLOGY ELECTIVES	6
FREE ELECTIVE	3
HUM OR SS ELECTIVE	3
SENIOR RESEARCH EXPERIENCE <sup>7</sup>	3
BIOS 4460 COMMUNICATING BIOLOGICAL RESEARCH	1
<b>TOTAL SEMESTER HOURS</b>	<b>16</b>

FIRST YEAR-SPRING	HOURS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1552 INTEGRAL CALCULUS	4
BIOS 1208 AND 1208L MAJORS ORGANISMAL BIOLOGY <sup>1,2</sup>	4
CHEM 1212K CHEMICAL PRINCIPLES II	4
<b>TOTAL SEMESTER HOURS</b>	<b>15</b>

SECOND YEAR-SPRING	HOURS
BIOS 2600 GENETICS, BIOS 2300 ECOLOGY OR BIOS 2310 PROBLEM-BASED ECOLOGY <sup>3</sup>	3
BIOS 2601 GENETICS LAB, BIOS 2301 ECOL LAB, OR BIOS 2311 PROB-BASED ECOL LAB <sup>3</sup>	1
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB	2
QUANTITATIVE BIOLOGY REQUIREMENT <sup>5</sup> or COMPUTING REQUIREMENT	3
HUM OR SS ELECTIVE	3
CONSTITUTION AND HISTORY REQUIREMENTS <sup>4</sup>	(varies, see note below)
<b>TOTAL SEMESTER HOURS</b>	<b>14 or 15</b>

THIRD YEAR-SPRING	HOURS
PHYS 2212 INTRODUCTORY PHYSICS II FOR LIFE SCIENCES	4
BIOS 3450 CELL & MOLECULAR BIOLOGY OR BIOS 3600 EVOLUTION <sup>6</sup>	3
BIOS 3451 CELL & MOLECULAR BIOS LAB <sup>3</sup>	1
BIOLOGY ELECTIVE	3
WELLNESS	2
HUM or SS ELECTIVE	3
<b>TOTAL SEMESTER HOURS</b>	<b>15 or 16</b>

FOURTH YEAR-SPRING	HOURS
BIOLOGY ELECTIVE	9
FREE ELECTIVE	5
HUM OR SS ELECTIVES	3
<b>TOTAL SEMESTER HOURS</b>	<b>17</b>

**TOTAL DEGREE REQUIREMENT HOURS**      **122<sup>8</sup>**

See important notes on next page

\*Not required for graduation, another free elective may be substituted

**Important notes regarding degree requirements**

Pass-fail allowed for Free Electives only. Refer to Institute rules for maximum pass-fail credits allowed.

<sup>1</sup>BIOS 1107 and 1107L may be substituted for BIOS 1207 and 1207L; BIOS 1108 and 1108L may be substituted for BIOS 1208 and 1208L.

<sup>2</sup>Four credit hours of Biology elective may be substituted for BIOS 1208 and 1208L if a score of 5 was achieved on the AP Biology test. A maximum of 1 of these credits may be BIOS 4697 or BIOS 4699. Please discuss this option with your advisor. It is important to note that substituting for BIOS 1208 and 1208L often results in a student needing to take more than a single Biology elective class, because most Biology electives are only 3 credit hours.

<sup>3</sup>Biology lab courses: Students are required to complete two of these three lab categories: Ecology or Problem-Based Ecology Lab (BIOS 2301 or 2311); Genetics or Integrative Genetics Lab (BIOS 2601 or 2611); Cell and Molecular Biology Lab (BIOS 3451).

<sup>4</sup>The four Constitution and History Requirements must be completed before 90 credit hours and are fulfilled as follows: US HISTORY fulfilled by HIST 2111, HIST 2112, equivalent transfer/AP/IB credit, or passing the United States History Module Examination\*; GA HISTORY fulfilled by HIST 2111, HIST 2112, equivalent transfer/AP/IB credit, or passing the Georgia History Module Examination; US CONSTITUTION fulfilled by INTA 1200, POL 1101, PUBP 3000, equivalent transfer/AP/IB credit, equivalent transfer/AP/IB credit, or passing the United States Constitution Module Examination\*; GA CONSTITUTION fulfilled by INTA 1200, POL 1101, PUBP 3000, equivalent transfer/AP/IB credit, equivalent transfer/AP/IB credit, or passing the Constitution of Georgia Module Examination\*. HIST 2111 or HIST 2112 may be used to fulfill both the US/GA History requirements and count toward Social Science requirements. INTA 1200, POL 1101, or PUBP 3000 may be used to fulfill both the US/GA Constitution requirements and count toward Social Science requirements. Note that all students must complete one of these five courses (HIST 2111, HIST 2112, INTA 1200, POL 1101, or PUBP 3000) to fulfill Core Area E requirements; courses may be completed at GT or via AP/IB/Transfer credit. \*Note that the Module Examinations do not carry any academic credit.

<sup>5</sup>The following courses meet the Quantitative Biology Course requirement (Note that MATH 1551 and MATH 1553 are pre-requisites for most of the Quantitative Requirement courses): BIOS 3400 Mathematical Models in Biology, BIOS 4150 Genomics & Applied Bioinformatics, BIOS 4401 Experimental Design & Statistics (meets MCAT statistics requirement).

<sup>6</sup>The prerequisite for BIOS 3600 is either BIOS 2300, BIOS 2310, BIOS 2600, or BIOS 2610.

<sup>7</sup>The Senior Research Experience can be met with any of the following during the fourth year fall or spring semesters: BIOS 4590 Research Project Lab, BIOS 4690 Independent Research Project (requires at least one previous semester of BIOS 4699/2699).

<sup>8</sup>A minimum of 39 hours of upper division coursework (3000-level or higher) is required for all Georgia Tech undergraduate degrees. The 39 hours of upper division coursework can fulfill any category of degree requirements, including free electives and "fall-through" courses.