

Biology –B.A. -Degree Requirements (43 to 45 total credit hours)

Students with 8 credits of Advanced Placement may omit the Introductory Biology courses.

Introductory Biology:

Required hours

BIO 121/123/124 (General Biology I & II) 8

Core Courses in Biology*:

BIO 326 (Cell Biology) (Fall) 3

BIO 327 (Genetics) (Spring) 3

BIO 345 (Ecology and Evolution) (Fall) 3

BIO 305 (Integrative Biology Laboratory) (Spring) 3

(12 hrs total for Core)

*note that as of 2012, students must achieve a C+ or better in at least two core courses prior to being allowed to declare the Biology major

Upper Division Courses in Biology (12 credit hours total)

Credit limits for certain courses:

In any combination of Bio 360 (Biology Laboratory Assistant), BIO 419 (Thesis Seminar), BIO 460 (Research in Biology), BIO 470 or 490 (Independent Study), and BIO 495 or 499 (Biology Thesis), a maximum of four credit hours can be applied toward the BS degree credit hour requirement for any purpose.

1) Laboratory course:

a) Choose **one** of the following:

BIO 316 (Anatomy and Physiology I)

BIO 317 (Anatomy and Physiology II)

BIO 405 (Introduction to Field Biology)

BIO 417 (Animal Behavior and Evolution Lab)

BIO 422 (Bioinformatics for the Life Sciences)

BIO 425 (Cell and Developmental Biology Lab)

BIO 432 (Environmental Microbiology Lab)

BIO 435 (Genetics Lab)

BIO 453 (Ecology Lab) BIO

455 (Physiology Lab)

BIO 460 (Research in Biology - 3 credits)

BIO 463 (Molecular Biotechnology)

BIO 464 (Applied Biotechnology)

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BIO 465 (Molecular Biology Lab)

BIO 475 (Biochemistry Lab)

CIE 471 (Environmental Chemistry and Analysis)
CHE 477 (Preparation and Analysis of Proteins and Nucleic Acids)
BTC 401 (Molecular Biology Techniques at SUNY-CESF)

2) Elective courses:

These can include any 300 level or higher Biology Department courses except courses designated not for majors. Elective courses should be taken to complete the required 12 credits of upper division courses beyond the four Core courses.

Petition for elective credits outside Biology:

By approval through a petition to the Biology Department, a maximum of six credits of 300 to

600 level courses related to Biology from other departments (for example, Bioengineering, Chemistry, Physics, Psychology, Math, ESF) may be included as part of the elective requirement. CHE 325/326 (Organic Chemistry II) may not be used for this purpose. Petitions can be obtained from the Undergraduate Secretary, room 114 LSC.

Total Biology hours required: 32

Non-departmental BA Degree Requirements

CHE 106/107 (General Chemistry I with lab)	4
CHE 116/117 (General Chemistry II with lab)	4

And select **one** of the following:

CHE 275/276 (Organic Chemistry I with lab), or	5
Either MAT 285 (Calculus I) or MAT 295*	3-4

Total non-biology hours required: 11-13

* Either MAT sequence satisfies the quantitative skills requirement in the liberal arts core.

Total hours required: 43 - 45