

## Pre-2010- BS Degree Requirements (55 to 57 total credit hours)

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

Introductory Biology: Required hours

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

Core Courses in Biology (select either A or B below):

This curriculum involves a concentration by BS students in one of the two following areas:

Either

A) Cell and Molecular Biology

BIO 326 Genetics (Spring) 3

BIO 327 Cell Biology (Fall) 3

Or

B) Ecology and Evolution

BIO 345 Ecology and Evolution (Fall) 3

BIO 305 or another approved course (consult Dr. Erdman) 3

(6 hrs total for Core)

Upper Division Courses in Biology (22 credit hours total)

1) Laboratory courses:

a) Choose two 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)

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)

Page 13

b) Choose an additional laboratory experience

This can include another laboratory course listed under a), or an upper division biology course

with a lab component, such as BIO 431 (Population Genetics), BIO 424 (Comparative Vertebrate

Biology), BIO 409 (Microbiology), BIO 460 (Research in Biology) for at least one credit, a 300 level or

higher ESF course with a lab (by petition), or, by petition, an appropriate upper division laboratory course from a discipline related to biology (excluding CHE 326, Organic Chem. II laboratory).

2) Elective courses:

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.

a) Communication skills courses

These courses are to develop skills in both oral and written communication. The requirement can

be completed with any one of the following:

BIO 400 Animal Communication

BIO 400 Developmental Neuroscience

BIO 405 (Introduction to Field Biology)

BIO 417 (Animal Behavior and Evolution Lab)

BIO 419 (Thesis Seminar) plus Bio 495 or 499 (Biology Thesis)

BIO 421 (Jr/Sr Seminar)

BIO 425 (Cell and Developmental Bio Lab)

BIO 428 (Capstone Seminar in Environmental Sciences)

BIO 453 (Ecology Lab)

BIO 455 (Physiology Lab)

BIO 463 (Molecular Biotechnology)

BIO 464 (Applied Biotechnology)

BIO 465 (Molecular Biology Lab)

b) Other 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 22 credits of upper division

courses beyond the 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 Chem. II) may not be used for this purpose. Petitions can be obtained from the Undergraduate Secretary, room 114 LSC.

Total Minimum Biology hours required: 36

Non-departmental BS Degree Requirements

Chemistry 13 credits

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

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

CHE 275/276 (Organic Chemistry I with lab) 5

Mathematics 6-8 credits

Either MAT 285/286 (Calculus I and II)\* 6

Or MAT 295/296 (Calculus I and II)\* 8

Or MAT 295 (Calculus I) and a 300 level Statistics Course\* 7

Total non-biology hours required: 19 to 21

\* Either MAT sequence satisfies the quantitative skills requirement in the liberal arts core, but MAT

295/296 is a prerequisite for all advanced level (300 level and above) mathematics courses.