

## Biotechnology (B.S.)

20143-20154 Catalog Year

### Program Admission Requirements

- Submit an FGCU Undergraduate Admission Application and satisfy all applicable university admission requirements.
- Complete common prerequisites with a grade of C or better.
- Attend an orientation session.
- Sign an Advising Agreement document.

### Program Requirements

#### 1. FGCU General Education Program (GEP) (36 hrs)

Refer to the General Education Program for more information.

- A. Communication (6 hrs)
  - 1. ENC 1101 (3)
  - 2. ENC 1102 (3)
- B. Mathematics (6 hrs)
  - 1. STA 2023 (3)
  - 2. MAC 2311 (4)
- C. Humanities (9 hrs)
  - 1. HUM 2510 (3)
- D. Social Sciences (6-9 hrs)
- E. Natural Sciences (6-9 hrs)
  - 1. BSC 1010C (4) or BSC 1010 (3) and BSC 1010L (1)
  - 2. BSC 1011C (4) or BSC 1011 (3) and BSC 1011L (1)
  - 3. CHM 1045C (4) or CHM 1045 (3) and CHM 1045L (1)

Note: At least one Natural Sciences course must include a laboratory or field component. Courses meeting this requirement contain a "C" or "L" in their course numbers. Each combined lecture and laboratory course (marked with a C) is equivalent to taking the lecture and laboratory separately.

#### 2. Common Prerequisites

- BSC 1010C General Biology with Lab I (4) or BSC 1010 (3) and BSC 1010L (1) (GEP)
- BSC 1011C General Biology with Lab II (4) or BSC 1011 (3) and BSC 1011L (1) (GEP)
- CHM 1045C General Chemistry with Lab I (4) or CHM 1045 (3) and CHM 1045L (1) (GEP)
- CHM 1046C General Chemistry with Lab II (4) or CHM 1046 (3) and CHM 1046L (1)

- CHM 2210C Organic Chemistry with Lab I (4) or CHM 2210 (3) and CHM 2210L (1)
- CHM 2211C Organic Chemistry with Lab II (4) or CHM 2211 (3) and CHM 2211L (1)
- MAC 2311 Calculus I (4) (GEP)
- PHY 2053C College Physics with Lab I (4)
- PHY 2054C College Physics with Lab II (4)
- STA 2023 Statistical Methods (3) (GEP)

### 3. Required Courses in the Major (28 hrs) □

- BCH 3023C Biochemistry (3)
- BSC 4422C Methods in Biotechnology (3)
- BSC 4942C Senior Research in Biotechnology (2)
- BSC 4943 Senior Project Presentation in Biotechnology (1)
- IDS 3300 Foundations of Civic Engagement (3)
- ~~3X~~ ~~XXC~~ ISC 3120C Scientific Process (3)
- MCB 3020C Microbiology (4)
- PCB 3023C Cell Biology (3)
- PCB 3063C Genetics (3)
- PCB 4522C Molecular Genetics (3)

### 4. Electives in the Major (20 hrs)

Select 2 hours from the following:

- BSC 4905 Directed Independent Study/Research in Biotechnology (1-3) or
- BSC 4941 Internship in Biotechnology (1-3)

Select 18 hours from the following:

- ANS 3440 Animal Nutrition (3)
- BCH 3025C Analytical Biochemistry (3)
- BOT 3015C The Lives of Plants and Algae (3)
- BOT 4394C Plant Molecular Biology (3)
- BOT 4503C Plant Physiology (3)
- ~~BSC 3367C Tropical Island Biology (3)~~
- ~~BSC 4052 Conservation Biology (3)~~
- BSC 4905 Directed Independent Study/Research in Biotechnology (1-3)
- BSC 4930 Special Topics in Biology (2-4) (course must be approved by dept. chair)
- BSC 4941 Internship in Biotechnology (1-3)
- ~~EVS 4814C Environmental Toxicology (3)~~
- ISC 4131 Scientific Entrepreneurship (3)
- MAC 2312 Calculus II (4)
- MCB 3652C Environmental Microbiology (3)
- ~~4XX~~ ~~XC~~ MCB 4223C Food Microbiology

- MCB 4502C Virology (3)
- MCB 4507C Virology, Mycology & Parasitology (3)
- OCB 4633C Marine Ecology (3)
- PCB 3463C Marine Ecosystems Monitoring and Research Methods (3)
- PCB 3703C\* Human Physiology (3)
- PCB 3723C\* Comparative Animal Physiology (3)
- PCB 4xxx Comparative Immunology (3)
- PCB 4233C Immunology (3)
- PCB 4253C Developmental Biology (3)
- PCB 4714 Comparative Immunology (3)
- ZOO 4422C Herpetology (3)
- ZOO 4513C Animal Behavior (3)
- ZOO 4743C Neuroscience (3)
- ZOO 4753 Histology

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\* Only three credits in Physiology, from either PCB 3723C Comparative Animal Physiology or PCB 3703C Human Physiology will count towards the required hours of electives in Biotechnology.

#### 5. University Requirements (3 hrs)

- IDS 3920 University Colloquium (3)

#### 6. Additional Electives (variable)

**TOTAL SEMESTER HOURS REQUIRED:120 HRS**

#### Additional Graduation Requirements

- A minimum of 120 credit hours.
- A minimum of 48 of the 120 hours must be at the upper division (3000 - 4999) level.
- A cumulative GPA of 2.0 for all coursework attempted at FGCU.
- A minimum grade of C for each course used to satisfy the following categories: common prerequisites, required courses in the major, and electives in the major.
- Satisfaction of the Communication and Computation Skills and foreign language entrance requirements.
- Satisfaction of the Service Learning requirement (See [www.fgcu.edu/connect](http://www.fgcu.edu/connect)).
- Satisfaction of the residency requirement: thirty of the last sixty credits must be completed at FGCU.
- Completion of the summer course enrollment requirement.
- Submit an Application for Graduation by the deadline listed in the FGCU Academic Calendar.

#### Transfer Notes and Acceptable Substitutes

- The following substitutions are acceptable for common prerequisites and must be completed with a grade of C or better
- BSC 1010C: may substitute BSC X010C (4) or BSC X010 and BSC X010L (4)
- BSC 1011C: may substitute BSC X011C (4) or BSC X011 and BSC X011L (4)
- CHM 1045C: may substitute CHM X045C (4) or CHM X045 and CHM X045L (4)
- CHM 1046C: may substitute CHM X046C (4) or CHM X046 and CHM X046L (4)
- CHM 2210C: may substitute CHM X210C (4)
- CHM 2211C: may substitute CHM X211C (4)
- PHY 2053C: may substitute PHY X053C (4) or PHY X053 and PHY X053L (4) or PHY X048C or PHY X048 and PHY X048L (4)
- PHY 2054C: may substitute PHY X054C (4) or PHY X054 and PHY X054L (4) or PHY X049C or PHY X049L (4)
- MAC 2311: may substitute MAC X311 (4) or MAC X233 (3) or MAC X253 (3) or MAC X281 (3)
- STA 2023: may substitute STA X023 (3) or STA X122 (3) or STA X014 (3) STA X024 (3) or STA X321 (3) □

For All Majors: Students are strongly recommended to select required lower division electives that will enhance their General Education coursework and that will support their intended baccalaureate degree program. Students should consult with an academic advisor in their major degree area.