Biology (B.S.)

2014-2015 Catalog Year

- Pre-Professional Concentration
- Microbiology Concentration
- Organismal and Ecological Concentration

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
Must be completed with a grade of C or better.

- 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 CHM1045 (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)
- MAC 2312 Calculus II (4)

3. Required Courses in the Major (26 hrs)

- BSC 4910C Senior Project Research in Biology (2)
- BSC 4911 Senior Project Presentation in Biology (1)
- IDS 3300 Foundations of Civic Engagement (3)
- ISC 3120C Scientific Process (3)
- PCB 3023C Cell Biology (3)
- PCB 3043C General Ecology (3)
- PCB 3063C Genetics (3)
- PHY 2048C General Physics w/lab I or PHY 2053C College Physics w/lab I (4)*
- PHY 2049C General Physics w/lab II or PHY 2054C College Physics w/lab II (4)*

*If PHY 2048C and PHY 2049C or PHY 2053 and PHY 2054 were completed as common
prerequisites, CHM 2210C and CHM 2211C must be taken to fulfill the core requirements;
conversely, if CHM 2210C and CHM 2211C were taken to fulfill common prerequisites, PHY
2048C and PHY 2049C or PHY 2053 and PHY 2054 must be completed.

4. Restricted Electives in the Major (9 hrs)

Complete 9 hours from the following:

- ANS 3440 Animal Nutrition (3)
- ANT 3586C Human Evolution (3)
- BCH 3023C Biochemistry (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 1930L Seminar in Medicine I (1)
- BSC 2930L Seminar in Medicine II (1)
- BSC 3303 Biogeography (3)
- BSC 3367C Tropical Island Biology (3)
- BSC 4052 Conservation Biology (3)
- BSC4422C Methods in Biotechnology (3)
** A maximum number of 4 credits combined from these courses can be used to fulfill the elective requirement.

** Courses taken to satisfy common prerequisites cannot be counted as an elective.

*** A maximum of 2 credits from these courses can count towards the electives requirement.

5. **Concentration Requirements (18-19 hrs)**
   Complete one of the following concentrations:

   **A. Pre-Professional Concentration (18 hrs)**
   Complete each of the following:
   - BCH 3023C Biochemistry (3)
   - MCB 3020C General Microbiology (4)
   - Complete 11 additional credits from the list of Restricted Electives in the Major above.

   **B. Microbiology Concentration (19 hrs)**
   Complete each of the following:
   - BCH 3023C Biochemistry (3)
   - MCB 3020C General Microbiology (4)
   - MCB 3652C Environmental Microbiology (3)
   - MCB 4203C Pathogenic Microbiology (3)
   - MCB 4502C Virology (3)
   - PCB 4233C Immunology (3)

   **C. Organismal and Ecological Concentration (18 hrs)**
   Complete each of the following:
   - PCB 3673 Evolutionary Biology (3)
   
   Complete one course from each of the following two groups:

   **Group 1:**
   - PCB 3723C Comparative Animal Physiology (3)
   - ZOO 3713C Vertebrate Form and Function (3)

   **Group 2:**
   - BOT 3015C The Lives of Plants and Algae (3)
   - BOT 4503C Plant Physiology (3)

   Complete 9 additional credits from the list of Restricted Electives in the Major above.

6. **University Requirements (3 hrs)**
Courses used to fulfill requirements in the Restricted Electives (4) cannot also be used to fulfill requirements in the Concentrations (5).
• IDS 3920 University Colloquium (3)

7. 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, courses in the concentrations, 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).
• 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 substitutes are acceptable for common prerequisites and must be completed with a grade of C or better.

• BSC 1010C: may substitute BSC X010/X010L (4) or BSC X010C (4), or BSC X040/X040L (4), or PCB X011C (4)
• BSC 1011C: may substitute BSC X011/X011L (4) or BSC X011C (4) or BSC X041/X041L (4)
• CHM 1045C: may substitute CHM X045/X045L (4) or CHM X045C (4) or CHM X040 (3) and CHM X041 (1)
• CHM 1046C: may substitute CHM X046/X046L (4) or CHM X046C (4)
• CHM 2210C and CHM 2211C: may substitute CHM X210/X210L (4) and CHM X211/X211L (4), or CHM X210C (4) and CHM X211C (4) or PHY X053/X053L (4) and PHY X054/X054L (4), or PHY X048/X048L (4) and PHY X049/X049L (4)
• MAC 2311: may substitute MAC X311 (4) or MAC X233 (4), MAC X253 (4), or MAC X281 (4), MAC X241 (4)
• MAC 2312: may substitute MAC X312 (4) or MAC X282 (4) or MAC X234 (4) or STA X023 (3), or STA X024 (4), or STA X321 (4)

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.