Biochemistry (B.S.)

College of Arts and Sciences
Department of Chemistry and Physics
http://www.fgcu.edu/CAS/BiochemistryBS/index.asp
(239) 590-1878
2014~~5~~-2015~~5~~6 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 (36 hours)**
   Refer to the General Education Program for more information. Students in this major are strongly encouraged to select the following courses to fulfill General Education requirements.

   A. Communication (6 hours)
      - ENC 1101 (3)
      - ENC 1102 (3)

   B. Mathematics (6 hours)
      - STA 2023 (3)
      - MAC 2311 (4) (recommended)

   C. Humanities (9 hours)
      - HUM 2510 (3)

D. Social Sciences (6-9 hours)

E. Natural Sciences (6-9 hours)
- CHM 1045/1045L or CHM 1045C General Chemistry I w/lab (4) (recommended)
- CHM 1046/1046L or CHM 1046C General Chemistry II w/lab (4) (recommended)
- CHM 2210/2210L or CHM 2210C Organic Chemistry I w/lab (4) (recommended)

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 laboratory separately.

2. **Common Prerequisites**
- BSC 1010/1010L or BSC 1010C General Biology I w/lab (4)
- BSC 1011/1011L or BSC 1011C General Biology II w/lab (4)
- CHM 1045/1045L or CHM 1045C General Chemistry I w/lab (4)
- CHM 1046/1046L or CHM 1046C General Chemistry II w/lab (4)
- CHM 2210/2210L or CHM 2210C Organic Chemistry I w/lab (4)
- CHM 2211/2211L or CHM 2211C Organic Chemistry II w/lab (4)
- MAC 2311 Calculus I (4)
- MAC 2312 Calculus II (4)

3. **Required Courses in the Major (41 hrs)**
- BCH 4033C Advanced Biochemistry I (4)
- BCH 4034C Advanced Biochemistry II (4)
- CHM 3005C Physical Chemistry for the Life Sciences (4)
- CHM 3120C Analytical Chemistry (4)
- CHM 4139C Instrumental Analysis (4)
- CHM 43610 Inorganic Chemistry (3)
- CHM 43610L Inorganic Chemistry Lab (1)
- CHM 4931 Senior Capstone in Chemistry (3)
- CHM 4932 Chemistry Senior Seminar (3)
- ISC 3120C Scientific Process (3)
- PHY 2048C General Physics I w/lab (4) or PHY 2053C College Physics I w/lab (4)
- PHY 2049C General Physics II w/lab (4) or PHY 2054C College Physics II w/lab (4)

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

4. **Electives in the Major (16 hrs)**
    - Chemistry electives (10 hours)
        - BCH 3025C Analytical Biochemistry (3)
        - CHM 3940 Internship in Chemistry (1-4)*
        - CHM 4140 Senior Project in Chemistry (2)*
        - CHM 4141 Senior Project Presentation Chemistry (2)*
        - CHM 4905 Directed Independent Study/Research in Chemistry (2-4)*
        - CHM 4930 Special Topics in Chemistry (3)*
        - CHM 4220 Advanced Organic Chemistry (3)
        - CHM 4671 Bioinorganic Chemistry (3)
        - CHS 4544C Forensic Chemistry (3)
        - CHM 4300 Bio-Organic Chemistry (3)
        - CHM 4080C Advanced Environmental Chemistry (3)

        * A maximum number of 4 credits combined from these courses can be used to fulfill the elective requirement.

        ~~*may be repeated for credit with separate topics~~

    - Biology electives (6 hours)
        - BSC 4422C Methods in Biotechnology (3)
        - MCB 3020C General Microbiology (~~3~~4)
        - MCB 4502C Virology (3)
        - PCB 3023C Cell Biology (~~3~~4)
        - PCB 3063C Genetics (~~3~~4)
        - PCB 4233C Immunology (3)
        - PCB 4522C Molecular Genetics (3)

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).
- 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 1010/1010L or BSC 1010C General Biology I w/lab (4): May substitute BSC X040/X040L (4)
- BSC 1011/1011L or BSC 1011C General Biology II w/lab (4): May substitute BSC X01/X041L (4)
- CHM 1045/1045L or CHM 1045C General Chemistry I w/lab (4): May substitute CHM X040 and CHM X041
- CHM 2210/2210L or CHM 2210C Organic Chemistry I w/lab (4): May substitute PHY X048/X048L or PHY X053/X053:
- CHM 2211/2211L or CHM 2211C Organic Chemistry II 2/lab (4): May substitute PHY X049/X049L or PHY X054/X054L
- MAC 2311 Calculus I (4): May substitute MAC X233 or MAC X253 or MAC X281

  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.