Biomedical Sciences - Preprofessional Concentration (B.S.)

College of Medicine
Burnett School of Biomedical Sciences
Health and Public Affairs II, Room: 335
https://med.ucf.edu/biomed/

Email: bsbsadvising@ucf.edu

Dr. Griffith Parks, Director
Phone: 407-823-5932

Students seeking admission to professional schools (medical, dental, optometry, veterinary, podiatry, and pharmacy) will meet all the admission requirements for those programs while obtaining a Biomedical Sciences degree.

Admission Requirements

- None

Degree Requirements

- Students who change degree programs and select this major must adopt the most current catalog.
- Students should complete the General Education Program before transferring within the Florida College System or State University System.
- Grades below “C” in Common Program Prerequisites, Core Requirements and Restricted Electives will not be accepted.
- Students should consult with a BSBS academic advisor and the Office of Pre-Health and Pre-Law Advising at least once per semester.

1. UCF General Education Program (GEP) (37 hrs)

- Note: Certain courses must be selected in GEP for this major, bringing the total GEP hours to more than 36.

A: Communication Foundations (9 hrs)
- Required: ENC 1101 Composition I 3 hrs
- Required: ENC 1102 Composition II 3 hrs
- Preferred: SPC 1603C Fundamentals of Technical Presentations 3 hrs

B: Cultural & Historical Foundations (9 hrs)
- Required: STA 2023 Statistical Methods I 3 hrs
- Required: STA 2023 Statistical Methods II 3 hrs

C: Mathematical Foundations (7 hrs)
- Required: MAC 2311 Calculus with Analytic Geometry I 4 hrs
- Required: STA 2023 Statistical Methods I GEP 3 hrs

D: Social Foundations (6 hrs)
- Required: BSC 2010C Biology I 4 hrs
- Required: CHM 2045C Chemistry Fundamentals I 4 hrs

2. Common Program Prerequisites (CPP) (16 hrs)

- See “Common Prerequisites” in the Transfer and Transitions Services section for more information.

BSC 2010C Biology I 4 hrs
1 BSC 2011C Biology II 4 hrs
1 CHM 2045C Chemistry Fundamentals I GEP 4 hrs
CHM 2046 Chemistry Fundamentals II 3 hrs
CHM 2046L Chemistry Fundamentals Laboratory 1 hr
MAC 2311C Calculus with Analytic Geometry I 4 hrs

Select one of the following sequences of courses:

- PHY 2053C College Physics I and 4 hrs
- PHY 2054C College Physics II 4 hrs

- PHY 2048C General Physics Using Calculus I and 4 hrs
- PHY 2049C General Physics Using Calculus II 4 hrs

3. Core Requirements: Basic Level (10 hrs)

- Life Sciences: Basic
  - SLS 2311C Overview of Select Medical Careers 2 hrs

- Math and Statistics
  - STA 2023 Statistical Methods I GEP 3 hrs
  - MAC 2311 Calculus with Analytic Geometry I GEP 3 hrs

- Chemistry
  - CHM 2210 Organic Chemistry I and 3 hrs
  - CHM 2211 Organic Chemistry II and 3 hrs
  - CHM 2211L Organic Laboratory Techniques I 2 hrs

4. Core Requirements: Advanced Level (25 hrs)

- Life Sciences: Advanced
  - MCB 3020C General Microbiology 5 hrs
  - MCB 3022 Molecular Biology I 3 hrs
  - MCB 4524 Molecular Biology II 3 hrs
  - BSC 3403C Quantitative Biological Methods 4 hrs

Select one of the following sequences of courses:

- PCB 4280 Molecular Immunology and 3 hrs
  - PCB 3233L Immunology Laboratory 1 hr
- or
  - PCB 3233 Immunology and 3 hrs
  - PCB 3233L Immunology Laboratory 1 hr

- Select 1:
  - MCB 4414 Microbial Metabolism or 3 hrs
  - MCB 4410 Cellular Metabolism 3 hrs

- Biochemistry - Select 1
  - BCH 4024 Medical Biochemistry or 4 hrs
  - BCH 4053 Biochemistry I 3 hrs

5. Restricted Electives

7 courses minimum

- Seven (7) courses from below, from which at least two must be a laboratory course. No more than two may be MLS courses. Enrollment in some MLS courses is restricted. Check with advisor before enrolling. Only three hours of Honors thesis will count towards restricted elective requirement.
- Students cannot choose more than two (2) of the following restricted electives: BCH 4054, BCH 4103L, BOT 4850, PCB 3063, PCB 4402, PCB 4514, PCB 4678, PCB 4683, ZOO 4513, ZOO 4603C.
- As an alternative to one of these listed electives, students can take part in a GEAR course, the PILOT course, or carry out an HIM thesis. Any one of these courses or programs will substitute for a restricted elective course, including elective laboratory courses.

- BCH 4054 Biochemistry II 3 hrs
  - BOT 4850 Medicinal Botany 3 hrs
  - MCB 3020 Principles of Infectious Disease 3 hrs
  - MCB 3203 Pathogenic Microbiology 3 hrs
  - MCB 4207 Infectious Processes 3 hrs
  - MCB 4276 Epidemiology of Infectious Diseases 3 hrs
  - MCB 4312 Molecular Biotechnology 3 hrs
  - MCB 4404 Bacterial Genetics and Physiology 3 hrs
  - MCB 4503C Virology 3 hrs
  - MCB 4553 Applied Industrial Microbiology 3 hrs
  - MCB 4970H Honors Undergraduate Thesis II 3 hrs
  - MLS 3305 Hematology 3 hrs
  - MLS 4334 Hemostasis 3 hrs
  - MLS 4303C Clinical Parasitology 3 hrs
  - MLS 4505C Immunodiagnostics 3 hrs
  - PCB 3063 Genetics 3 hrs
  - PCB 3703C Human Physiology 4 hrs
  - PCB 4526 Molecular and Cellular Pharmacology 3 hrs
  - PCB 4534 Cancer Biology 3 hrs
  - PCB 4284 Immunobiology 3 hrs
  - PCB 4402 Disease Ecology & Ecosystem Biology 3 hrs
  - PCB 4514 Genetics II 3 hrs
  - PCB 4663 Human Genetics 3 hrs
  - PCB 4678 Evolution and Medicine 3 hrs
  - PCB 4683 Evolutionary Biology 4 hrs
  - PCB 4708L Laboratory Virtual Simulations in Physiology 3 hrs

1 See Transfer Notes for possible substitutions
UCF Degree Programs

### 6. Capstone Requirements
- None

### 7. Foreign Language Requirements
#### Admissions
- Two years of one foreign language in high school, or one year of one foreign language in college (or equivalent proficiency exam) prior to graduation.

#### Graduation
- None

### 8. Electives
- Variable

### 9. Additional Requirements
- None

### 10. Required Minors
- None

### 11. Departmental Exit Requirements
- Student must complete all coursework in the baccalaureate curriculum as shown, and earn a GPA of at least 2.0 for all coursework in the Prerequisites, Core and Restricted Electives.
- Independent study, directed research, or similar credit may not be used as a Restricted Elective.
- Minimum of 20 hours must be taken at UCF in the department of the major.
- Students will be required to take a comprehensive test during their last semester.

### 12. University Minimum Exit Requirements
- A 2.0 UCF GPA
- 60 semester hours earned after CLEP awarded
- 48 semester hours of upper division credit completed
- 30 of the last 39 hours of course work must be completed in residency at UCF.
- A maximum of 45 hours of extension, correspondence, CLEP, Credit by Exam, and Armed Forces credits permitted.
- Complete the General Education Program, the Gordon Rule, and nine hours of Summer credit.

### Total Semester Hours Required
- 120

### Honors In Major
- Application and admission through the Department and the Burnett Honors College.
- Fulfill University requirements for Honors in the Major and maintain a 3.2 UCF GPA; 3.5 in the major; 3.2 cumulative average for graded upper division courses regardless of the institution.
- Complete the following with a grade of B or better (4 credits):
  - BSC 3403C Honors Quantitative Biological Methods  4 hrs
  - Complete the following with a grade of B or better and successfully complete the oral defense of the Honors Thesis (3 credits).
  - MCB 4970H Honors Undergraduate Thesis II  1 hr

### Related Programs
- Biology
- Biotechnology
- Chemistry
- Medical Laboratory Sciences

### Certificates
- None

### Related Minors
- Biology
- Chemistry

### Advising Notes
- None

### Transfer Notes
- Students who begin a two semester sequence course (e.g. General Chemistry) at a Florida College System institution are strongly encouraged to complete the sequence before transferring. If it will not be possible to complete the sequence before transferring, the student should postpone beginning the course until enrolling at UCF.
- Lower division courses do not substitute for upper division courses.

### Acceptable Substitutes for Transfer Courses
- BSC 2011C Biology II  4 hrs
- may be substituted with: BSC 3403C
- CHM 2045C Chemistry Fundamentals I  4 hrs
- may be substituted with: CHM 2040
- CHM 2045C Chemistry Fundamentals I  4 hrs
- may be substituted with: CHM 2041

### Plan of Study
#### Freshman Year - Fall
- ENC 1101 Composition I  3 hrs
- CHM 2045C Chemistry Fundamentals I  4 hrs
- MAC 2311C Calculus with Analytic Geometry I  4 hrs
- SLS 2311C Overview of Select Medical Careers  2 hrs
- GEP  3 hrs

#### Sophomore Year - Fall
- CHM 2210 Organic Chemistry I  3 hrs
- MCB 3020C General Microbiology  5 hrs
- STA 2023 Statistical Methods I  3 hrs
- **Select 1:**
  - CHM 2211L Organic Laboratory Techniques I or Elective  2 hrs
  - 3 hrs

#### Sophomore Year - Summer
- Restricted Elective or Elective  3 hrs

#### Select 1:
- CHM 2211L Organic Laboratory Techniques I or Elective  2 hrs

#### Junior Year - Fall
- PCB 3522 Molecular Biology I  3 hrs
- GEP  3 hrs
- **Select 1:**
  - PHY 2048C General Physics Using Calculus I  4 hrs

#### Graduate Exit Placements
- Students electing to enroll in the PHY2048/2049 sequence must plan to accommodate MAC 2311/2312 as prerequisites.
### Junior Year - Spring

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<th>Hours</th>
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<td><strong>Select 1:</strong></td>
<td><strong>4 hrs</strong></td>
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<tr>
<td>1 PHY 2049C General Physics Using Calculus II or</td>
<td>4 hrs</td>
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<tr>
<td>PHY 2054C College Physics II</td>
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### Senior Year - Fall

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<tr>
<td><strong>Select 1:</strong></td>
<td><strong>3 hrs</strong></td>
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<td>3 hrs</td>
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### Senior Year - Spring

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### Program Academic Learning Compacts

Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at: [http://www.oears.ucf.edu/alc/academic_learning_compacts.htm](http://www.oears.ucf.edu/alc/academic_learning_compacts.htm)

### Equipment Fees

- Part-Time Student: $39 per term
- Full-Time Student: $78 per term