Biomedical Sciences - Neuroscience Track (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, 407-823-5932

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 in the Neuroscience track must maintain a minimum Science GPA of 3.2. Students who are unable to maintain such GPA must revert back into the non-track Biomedical Sciences B.S.
- Students should consult with a BSBS academic advisor at least once a semester.

1. UCF General Education Program (GEP)

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

B: Cultural & Historical Foundations (9 hrs)

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

D: Social Foundations (6 hrs)

E: Science Foundations (8 hrs)
- Required BSC 2010C Biology I 4 hrs
- Required CHM 2045C Chemistry Fundamentals I 4 hrs

1 or CHM 2040 and CHM 2041

2. Common Program Prerequisites (CPP)
- See “Common Prerequisites” in the Transfer and Transitions Services section for more information.

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

Select one of the following sequences of courses:

PHY 2053C College Physics I and 4 hrs
PHY 2054C College Physics II 4 hrs
or
PHY 2048C General Physics Using Calculus I and 4 hrs
PHY 2049C General Physics Using Calculus II 4 hrs

3. Core Requirements: Basic Level

Math and Statistics
- MAG 2311 Calculus with Analytic Geometry I GEP
- STA 2023 Statistical Methods I GEP

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

4. Core Requirements: Advanced Level

BSC 3403C Quantitative Biological Methods 4 hrs
MCB 3020C General Microbiology 5 hrs
PCB 3522 Molecular Biology I 3 hrs
PCB 3233L Immunology Laboratory 1 hr
PCB 4280 Molecular Immunology 3 hrs
PCB 4524 Molecular Biology II 3 hrs
MCB 4410 Cellular Metabolism 3 hrs

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

Track Core Requirements
- MCB 4224 Molecular Biology of Diseases 3 hrs
- PCB 4843 Cellular and Molecular Neuroscience 3 hrs
- ZOO 3744 Neurobiology 3 hrs
- ZOO 4743C Clinical Neuroanatomy and Neuroscience 4 hrs

5. Restricted Electives

Students must choose 3 courses. Two must come from the list below and the additional course can come from the broader list under the Biomedical Sciences (non-track). Two of these three courses must have a laboratory component.

PCB 3703C Human Physiology 4 hrs
PCB 4028 Molecular and Cellular Pharmacology 3 hrs
PCB 4135 Applied Molecular Cell Biology 3 hrs
PCB 4174 Foundation of Bio-Imaging Science 3 hrs
PCB 4234 Cancer Biology 3 hrs
PCB 4284 Immunobiology 3 hrs
PCB 4832 Cellular and Molecular Basis of Brain Functions 3 hrs
ZOO 4742 Advanced Neurobiology 3 hrs
ZOO 4747C Clinical Neuroscience 4 hrs

As an alternative to one of these listed electives, students can take part in a GEAR course, the PURE program, 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.

6. Capstone Requirements
- None

7. Foreign Language Requirements

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

Graduation
- None

8. Electives
- Variable. Students are encouraged to participate in undergraduate research if interested in pursuing graduate or professional education.

9. Additional Requirements
- None

10. Required Minors
- None

11. Departmental Exit Requirements

- Students must complete all coursework in the baccalaureate curriculum as shown and earn a GPA of at least 3.20 for all coursework in the sciences.
- Independent study, directed research or similar credit may not be used as a restricted elective.
- A 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.

UNIVERSITY OF CENTRAL FLORIDA

Undergraduate Catalog 2017-2018
### UCF Degree Programs

#### Total Semester Hours Required
- 120

#### Honors In Major
- Application and admissions 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 course with a grade of B or better.**
- **BSC 3403C** Quantitative Biological Methods 4 hrs

1 Honors section

**Complete the following with a grade of B or better and successfully complete the oral defense of the Honors Thesis.**
- **MCB 4970H** Honors Undergraduate Thesis II 1 hr

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

#### 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
- CHM 2040 and CHM 2041 substitute CHM 2045C

#### Plan of Study

**Junior Year - Fall**
- PCB 3522 Molecular Biology I 3 hrs
- Restricted Elective 4 hrs

**Select 1:**
- **PHY 2053C** College Physics I or 4 hrs
- **PHY 2048C** General Physics Using Calculus I 4 hrs

**Junior Year - Spring**
- PCB 4524 Molecular Biology II 3 hrs
- PCB 4634 Cellular and Molecular Neuroscience 3 hrs
- PCB 4200 Molecular Immunology 3 hrs
- PCB 3233L Immunology Laboratory 1 hr

**Select 1:**
- **PHY 2054C** College Physics II or 4 hrs
- **PHY 2049C** General Physics Using Calculus II 4 hrs

**Senior Year - Fall**
- ZOO 4743C Clinical Neuroanatomy and Neuroscience 4 hrs
- BCH 4053 Biochemistry I 3 hrs
- Restricted Elective 3 hrs
- Elective 3 hrs

**Senior Year - Spring**
- MCB 2244 Molecular Biology of Diseases 3 hrs
- MCB 4410 Cellular Metabolism 3 hrs
- Restricted Elective 4 hrs
- Elective 3 hrs

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

---

<table>
<thead>
<tr>
<th>Plan of Study</th>
<th>Freshman Year - Fall</th>
<th>14 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 1101 Composition I</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>CHM 2045C Chemistry Fundamentals I</td>
<td>4 hrs</td>
<td></td>
</tr>
<tr>
<td>MAC 2311 Calculus with Analytic Geometry I</td>
<td>4 hrs</td>
<td></td>
</tr>
<tr>
<td>General Education Program Course</td>
<td>3 hrs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Freshman Year - Spring</th>
<th>14 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2010C Biology I</td>
<td>4 hrs</td>
</tr>
<tr>
<td>CHM 2046 Chemistry Fundamentals II</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CHM 2046L Chemistry Fundamentals Laboratory</td>
<td>1 hr</td>
</tr>
<tr>
<td>ENC 1102 Composition II</td>
<td>3 hrs</td>
</tr>
<tr>
<td>General Education Program Course</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year - Fall</th>
<th>14 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2210 Organic Chemistry I</td>
<td>3 hrs</td>
</tr>
<tr>
<td>MCB 3020C General Microbiology</td>
<td>5 hrs</td>
</tr>
<tr>
<td>STA 2023 Statistical Methods I</td>
<td>3 hrs</td>
</tr>
<tr>
<td>General Education Program Course</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year - Spring</th>
<th>15 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2211 Organic Chemistry II</td>
<td>3 hrs</td>
</tr>
<tr>
<td>BSC 3403C Quantitative Biological Methods</td>
<td>4 hrs</td>
</tr>
<tr>
<td>ZOO 3744 Neurobiology</td>
<td>3 hrs</td>
</tr>
<tr>
<td>General Education Program Course</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>

**Select 1:**
- CHM 2211L Organic Laboratory Techniques I or 2 hrs
- Elective 3 hrs

<table>
<thead>
<tr>
<th>Sophomore Year - Summer</th>
<th>9 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2211L Organic Laboratory Techniques I or</td>
<td>2 hrs</td>
</tr>
<tr>
<td>Elective 3 hrs</td>
<td></td>
</tr>
<tr>
<td>Elective 3 hrs</td>
<td></td>
</tr>
<tr>
<td>Elective 3 hrs</td>
<td></td>
</tr>
</tbody>
</table>