



## Bachelor of Science in Biotechnology

Catalog Year 2024-2025

### I. University Requirements

- UCF General Education Program
- 120 Total Credit Hours
- 42 Upper-Level Credit Hours

*\*Refer to your degree audit to ensure all University requirements are Satisfied*

### II. Pending Requirements

To transition out of "Pending" status, students must earn a "C" or better in these courses or their equivalents:

- |                                    |  |       |
|------------------------------------|--|-------|
| <input type="checkbox"/> BSC 2010C | Biology I  | 4 hrs |
| <input type="checkbox"/> CHM 2045C | Chemistry Fundamentals I*  | 4 hrs |
|                                    | <i>*Prerequisites: Appropriate Chemistry Placement Exam score or CHM 1025 &amp; MAC 1105</i> |       |
| <input type="checkbox"/> CHM 2046  | Chemistry Fundamentals II  | 3 hrs |
| <input type="checkbox"/> CHM 2210  | Organic Chemistry I  | 3 hrs |

### III. Major Requirements

#### A. Core Curriculum

##### Life Sciences

- |  |  |             |
|--|--|-------------|
| <input type="checkbox"/> BSC 2011C                       | Biology II   | 4 hrs       |
| <input type="checkbox"/> PCB 3233 <b>-OR-</b> PCB 4280   | Immunology <b>or</b> Molecular Immunology                          | 3 hrs       |
| <input type="checkbox"/> PCB 3233L                       | Immunology Lab   | 1 hr        |
| <input type="checkbox"/> MCB 3020C                       | General Microbiology   | 5 hrs       |
| <input type="checkbox"/> PCB 3522                        | Molecular Biology I  | 3 hrs       |
| <input type="checkbox"/> PCB 4524                        | Molecular Biology II   | 3 hrs       |
| <input type="checkbox"/> MCB 4720                        | Industrial Perspectives Seminar                                    | 3 hrs       |
| <input type="checkbox"/> MCB 4312                        | Molecular Biotechnology  | 3 hrs       |
| <input type="checkbox"/> BSC 3403C <b>-OR-</b> MCB 4721C | Quant Biological Methods <b>or</b> Methods in Biotechnology        | 4 hrs       |
| <input type="checkbox"/> PCB 4135 <b>-OR-</b> PCB 4529C  | Applied Mol. Cell Biology <b>or</b> Experimental Mol. Cell Biology | 3 hrs/4 hrs |

##### Chemistry

- |  |   |             |
|--|---|-------------|
| <input type="checkbox"/> CHM 2046L                     | Chemistry Fundamentals Lab                    | 1 hr        |
| <input type="checkbox"/> CHM 2211                      | Organic Chemistry II                          | 3 hrs       |
| <input type="checkbox"/> CHM 2211L                     | Organic Laboratory Techniques I               | 2 hrs       |
| <input type="checkbox"/> BCH 4024 <b>-OR-</b> BCH 4053 | Medical Biochemistry <b>or</b> Biochemistry I | 4 hrs/3 hrs |

##### Math

- |                                    |   |       |
|------------------------------------|---|-------|
| <input type="checkbox"/> MAC 2311C | Calculus with Analytic Geometry I*                                | 4 hrs |
|                                    | <i>*Prerequisites: MAT 1033C, MAC 1105C, MAC 1114C, MAC 1140C</i> |       |
| <input type="checkbox"/> STA 2023  | Statistical Methods I   | 3 hrs |

##### Physics

#### Select One Sequence:

- |  |                                   |       |
|--|-----------------------------------|-------|
| <input type="checkbox"/> PHY 2053C ( <b>or</b> PHY 2053+2053L) | College Physics I                 | 4 hrs |
| <input type="checkbox"/> PHY 2054C ( <b>or</b> PHY 2054+2054L) | College Physics II                | 4 hrs |
| <b>-OR-</b>  |                                   |       |
| <input type="checkbox"/> PHY 2048C ( <b>or</b> PHY 2048+2048L) | General Physics Using Calculus I  | 4 hrs |
| <input type="checkbox"/> PHY 2049C ( <b>or</b> PHY 2049+2049L) | General Physics Using Calculus II | 4 hrs |

#### B. Restricted Electives

- Must participate in at least **3 credit hours of research (ex. MCB 4912, MCB 4941)**.
  - o **Note: Participating in AIM, GEAR, HIM (with approval), PILOT, or PURE will count for research credit.**

- Must take 1 restricted elective course from the list below.

<b>BCH 4054</b> Biochemistry II	<b>MCB 4204</b> Cell Micro: Host-Pathogen	<b>PCB 4234</b> Cancer Biology
<b>BCH 4103L</b> Biochemical Methods	<b>MCB 4207</b> Infectious Processes	<b>PCB 4264</b> Stem Cell Biology
<b>BSC 3424</b> Nanobiotechnology	<b>MCB 4224</b> Molec Biology of Diseases	<b>PCB 4284</b> Immunobiology
<b>BSC 4434</b> Sequence Analysis	<b>MCB 4404</b> Bacterial Genetics & Physio	<b>PCB 4521</b> Tissue Engineering
<b>BSC 4439</b> Structure Analysis	<b>MCB 4414</b> Physio & Biochem Microbes	<b>PCB 4663</b> Human Genetics
<b>CHM 3120/L</b> Analytical Chemistry/Lab	<b>MCB 4503</b> Virology	<b>PCB 4805</b> Endocrinology
<b>CHM 3410</b> Physical Chemistry I	<b>MCB 4603</b> Environmental Microbiology	<b>PCB 4813</b> Molec Aspects of Obesity
<b>MCB 3202</b> Infectious Disease	<b>PCB 3063</b> Genetics	<b>PCB 4832</b> Brain Functions
<b>MCB 3203/L</b> Pathogenic Micro/Lab	<b>PCB 3703C</b> Human Physiology	<b>PCB 4833</b> Advanced Human Physiology
<b>MCB 4201</b> Microbial Stress Response	<b>PCB 4174</b> Foundation of Bio-Imaging	<b>PCB 4843</b> Cell and Molec Neuroscience