



Bachelor of Science in Biotechnology

Director: Dr. Griffith Parks, BBS 101G

Associate Director: Dr. William Self, HPA II 335C

I. University Requirements

UCF General Education Program (36 hrs)

Communication Foundations (9 hrs); Historical & Cultural Foundations (9 hrs); Social Foundations (6 hrs);
Mathematical Foundations and Science Foundations (12 hrs - satisfied by major requirements)

II. Departmental Requirements (82 hrs)

A. Core Curriculum (76 hrs)

Life Sciences

<input type="checkbox"/>	BSC 2010C	Biology I	4 hrs
<input type="checkbox"/>	BSC 3403C	Quantitative Biological Methods	4 hrs
<input type="checkbox"/>	MCB 3020C	General Microbiology	5 hrs
<input type="checkbox"/>	MCB 4312	Molecular Biotechnology	3 hrs
<input type="checkbox"/>	MCB 4414 -OR- MCB 4410	Microbial Metabolism or Cellular Metabolism	3 hrs
<input type="checkbox"/>	MCB 4720	Industrial Perspectives Seminar	3 hrs
<input type="checkbox"/>	MCB 4721C	Methods in Biotechnology	4 hrs
<input type="checkbox"/>	PCB 3522, 4524	Molecular Biology I, II	6 hrs
<input type="checkbox"/>	PCB 4135	Applied Molecular Cell Biology	3 hrs
<input type="checkbox"/>	PCB 4174	Foundation of Bio-Imaging Science	3 hrs
<input type="checkbox"/>	PCB 4280 -OR- PCB 3233, 3233L	Molecular Immunology or Immunology + Immunology Lab	4 hrs

Chemistry

<input type="checkbox"/>	BCH 4053 -OR- BCH 4024	Biochemistry I or Medical Biochemistry	3 hrs
<input type="checkbox"/>	CHM 2045C, 2046, 2046L	Chemistry Fundamentals I, II + Lab	8 hrs
<input type="checkbox"/>	CHM 2210, 2211, 2211L	Organic Chemistry I, II + Lab	8 hrs

Math

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

Physics

<input type="checkbox"/>	PHY 2048C, 2049C -OR-	General Physics Using Calculus I, II	8 hrs
<input type="checkbox"/>	PHY 2053C, 2054C	College Physics I, II	8 hrs

B. Upper Division Restricted Electives (6 hrs)

Students must select at least **2 courses** from the list below. No more than one course may be taken outside of the Biomedical Sciences Department. Each student must complete 3 credits of MCB 4912 (Directed Independent Research), MCB 4941 (Internship), or MCB 4970H (Undergraduate Honors Thesis). * = **outside Biomedical Sciences department**

❖ BCH 4054 Biochemistry II*	3 hrs	❖ MCB 4603 Environmental Microbiology	3 hrs
❖ BCH 4103L Biochemical Methods*	2 hrs	❖ PCB 3063 Genetics*	3 hrs
❖ BSC 3424 Nanobiotechnology	3 hrs	❖ PCB 3703C Human Physiology	4 hrs
❖ BSC 4434 Biomedical Informatics: Sequence Analysis	3 hrs	❖ PCB 4135 Applied Molecular Cell Biology	3 hrs
❖ BSC 4439 Biomedical Informatics: Structure Analysis	3 hrs	❖ PCB 4234 Cancer Biology	3 hrs
❖ CHM 3120, 3120L Analytical Chemistry + Lab*	4 hrs	❖ PCB 4264 Stem Cell Biology	3 hrs
❖ CHM 3410 Physical Chemistry I*	4 hrs	❖ PCB 4284 Immunobiology	3 hrs
❖ MCB 3202 Principles of Infectious Disease	3 hrs	❖ PCB 4521 Tissue Engineering	3 hrs
❖ MCB 3203, 3203L Pathogenic Microbiology + Lab	4 hrs	❖ PCB 4663 Human Genetics	3 hrs
❖ MCB 4201 Microbial Stress Responses	3 hrs	❖ PCB 4805 Endocrinology	3 hrs
❖ MCB 4204 Cell Microbiology: Host-Pathogen Interactions	3 hrs	❖ PCB 4813 Molecular Aspects of Obesity	3 hrs
❖ MCB 4207 Infectious Processes	3 hrs	❖ PCB 4832 Cellular and Molecular Brain Functions	3 hrs
❖ MCB 4224 Molecular Biology of Diseases	3 hrs	❖ PCB 4833 Advanced Human Physiology	3 hrs
❖ MCB 4404 Bacterial Genetics and Physiology	3 hrs	❖ PCB 4843 Cellular and Molecular Neuroscience	3 hrs
❖ MCB 4503C Virology	3 hrs		

Note: Participating in GEAR, PURE, PILOT, or HIM will count for the required research component.

III. Unrestricted Electives: 3000 level or above

See separate sheet for a list of unrestricted electives.



Suggested Baccalaureate Degree Plan of Study

Freshman Year				
Fall		Spring		Summer
CHM 2045C	4 hrs	BSC 2010C	4 hrs	Plan your 9 required summer hours into your course of study.
ENC 1101	3 hrs	CHM 2046	3 hrs	
Historical & Cultural Foundations Course	3 hrs	CHM 2046L	1 hr	
PSY 2012	3 hrs	ENC 1102	3 hrs	
OR SYG 2000		SPC 1603C	3 hrs	
OR ANT 2000				
Total Hours	13	Total Hours	14	
<i>**Students who, after taking the math placement exam, do not place into Calculus, must accommodate taking MAC 1105C, MAC 1114C, and/or MAC 1140C during their Freshman year</i>				

Sophomore Year				
Fall		Spring		Summer
CHM 2210	3 hrs	BSC 3403C	4 hrs	
MAC 2311C	4 hrs	CHM 2211	3 hrs	
MCB 3020C	5 hrs	CHM 2211L	2 hrs	
EUH 2000	3 hrs	STA 2023	3 hrs	
OR AMH 2010		EUH 2001	3 hrs	
OR HUM 2211		OR AMH 2020		
		OR HUM 2230		
Total Hours	15	Total Hours	15	

Junior Year				
Fall		Spring		Summer
MCB 4720	3 hrs	PCB 3233L	1 hr	
PCB 3522	3 hrs	PCB 4524	3 hrs	
ECO 2013	3 hrs	Restricted Elective	3/4 hrs	
OR POS 2041	4 hrs	PCB 4280	3 hrs	
PHY 2053C		OR PCB 3233		
OR PHY 2048C**		PHY 2054C	4 hrs	
		OR PHY 2049C**		
Total Hours	13	Total Hours	14-15	
<i>**Students electing to enroll in the PHY 2048C/2049C sequence must accommodate taking MAC 2311C/2312 as prerequisites</i>				

Senior Year				
Fall		Spring		Summer
MCB 4312	3 hrs	PCB 4174	3 hrs	
MCB 4721C	4 hrs	PCB 4529C	4 hrs	
Restricted Elective	3/4 hrs	Restricted Elective	3/4 hrs	
BCH 4053	3/4 hrs	MCB 4414	3 hrs	
OR BCH 4024		OR MCB 4410		
Total Hours	13-15	Total Hours	13-14	
<i>**Accommodate for 6-10 hours of unrestricted electives to complete the University required 120 hours</i>				

Alternative plans of study may be necessary as a result of transfers, course availability, or unsuccessful attempts at completing one or more courses. This should be discussed with a designated department academic advisor. Students should use unrestricted electives to meet the University requirement of 48 hours of courses at the 3000 level or above.

Students should consult with their designated academic advisor prior to each registration period.

**For more information contact:
Office of Student Services and Advisement
HPA II 335 / (407) 823-5932 / biomed.ucf.edu
BSBSAdvising@ucf.edu**