



# Burnett School of Biomedical Sciences

## Bachelor of Science in Biotechnology

Catalog Year 2019-2020

### I. University Requirements

- UCF General Education Program (36 hrs)

### II. Departmental Requirements (72 hrs)

#### A. Core Curriculum (66 hrs)

##### Life Sciences

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|---|--|-------|
| <input type="checkbox"/> BSC 2010C                | Biology I  | 4 hrs |
| <input type="checkbox"/> PCB 4280 -OR- PCB 3233   | Molecular Immunology <u>or</u> Immunology                          | 3 hrs |
| <input type="checkbox"/> PCB 3233L                | Immunology Lab   | 1 hr  |
| <input type="checkbox"/> MCB 3020C                | General Microbiology   | 5 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 -OR- MCB 4721C | Quantitative Biological Methods <u>or</u> Methods in Biotechnology | 4 hrs |
| <input type="checkbox"/> PCB 3522                 | Molecular Biology I  | 3 hrs |
| <input type="checkbox"/> PCB 4135                 | Applied Molecular Cell Biology                                     | 3 hrs |
| <input type="checkbox"/> PCB 4524                 | Molecular Biology II   | 3 hrs |

##### Chemistry

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|---|---|-------------|
| <input type="checkbox"/> CHM 2045C              | Chemistry Fundamentals I                      | 4 hrs       |
| <input type="checkbox"/> CHM 2046               | Chemistry Fundamentals II                     | 3 hrs       |
| <input type="checkbox"/> CHM 2046L              | Chemistry Fundamentals II Lab                 | 1 hr        |
| <input type="checkbox"/> CHM 2210               | Organic Chemistry I                           | 3 hrs       |
| <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 4053 -OR- BCH 4024 | Biochemistry I <u>or</u> Medical Biochemistry | 3 hrs/4 hrs |

##### Math

- |                                    |   |       |
|------------------------------------|---|-------|
| <input type="checkbox"/> MAC 2311C | Calculus with Analytic Geometry I                                   | 4 hrs |
|                                    | <i>Prerequisites: MAT 1033C, MAC 1105C, MAC 114C, and MAC 1140C</i> |       |
| <input type="checkbox"/> STA 2023  | Statistical Methods I   | 3 hrs |

##### Physics

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

#### B. Upper Division Restricted Electives (6 hrs)

- Must take at least **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	<b>PCB 4521</b> Tissue Engineering
<b>BSC 4439</b> Structure Analysis	<b>MCB 4414</b> Microbial Metabolism	<b>PCB 4663</b> Human Genetics
<b>CHM 3120</b> Analytical Chemistry	<b>MCB 4503C</b> Virology	<b>PCB 4805</b> Endocrinology
<b>CHM 3120L</b> Analytical Chemistry Lab	<b>MCB 4603</b> Environmental Microbiology	<b>PCB 4813</b> Molec Aspects of Obesity
<b>CHM 3410</b> Physical Chemistry I	<b>PCB 3063</b> Genetics	<b>PCB 4832</b> Brain Functions
<b>MCB 3202</b> Infectious Disease	<b>PCB 3703C</b> Human Physiology	<b>PCB 4833</b> Advanced Human Physiology
<b>MCB 3203</b> Pathogenic Micro	<b>PCB 4174</b> Foundation of Bio-Imaging	<b>PCB 4843</b> Cell and Molec Neuroscience
<b>MCB 4201</b> Microbial Stress Response		

- Must participate in at least **3 credit hours of research** (ex. MCB 4912, MCB 4941).

**Note: Participating in AIM, GEAR, HUT (formerly HIM), PILOT, or PURE will count for research credit.**

### III. Unrestricted Electives: University requirement 3000 level or above (9-12 hrs)

See the "Unrestricted Electives" sheet for suggestions.

	Course	Credit Hours
Unrestricted Elective #1		
Unrestricted Elective #2		
Unrestricted Elective #3		



**Bachelor of Science in Biotechnology  
Suggested 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	
GEP #4	3 hrs	CHM 2046L	1 hr	
GEP #9	3 hrs	ENC 1102	3 hrs	
		SPC 1603C* <u>or</u> SPC 1608	3 hrs	
Total	13 hrs	Total	14 hrs	
<i>* Recommended</i>				
<i>**Students who, after taking the math placement exam, do not place into Calculus, must accommodate taking MAT 1033C, MAC 1105C, MAC 1114C, and/or MAC 1140C during their Freshman year</i>				

Sophomore Year				
Fall		Spring		Summer
CHM 2210	3 hrs	BSC 3403C <u>or</u> MCB 4721C	4 hrs	
MAC 2311C	4 hrs	CHM 2211	3 hrs	
MCB 3020C	5 hrs	CHM 2211L	2 hrs	
GEP#5	3 hrs	STA 2023	3 hrs	
		GEP #6	3 hrs	
Total	15 hrs	Total	15 hrs	

Junior Year				
Fall		Spring		Summer
MCB 4720	3 hrs	PCB 3233L	1 hr	
PCB 3522	3 hrs	PCB 4524	3 hrs	
PHY 2053C <u>or</u> PHY 2048C*	4 hrs	PCB 4280 <u>or</u> PCB 3233	3 hrs	
GEP #10	3 hrs	PHY 2054C <u>or</u> PHY 2049C*	4 hrs	
		Restricted Elective	3/4 hrs	
Total	13 hrs	Total	14-15 hrs	
<i>*Students enrolling in PHY 2048C/2049C must accommodate taking MAC 2311C/2312 as prerequisites</i>				

Senior Year				
Fall		Spring		Summer
BCH 4053 <u>or</u> BCH 4024	3/4 hrs	PCB 4174	3 hrs	
MCB 4312	4 hrs	PCB 4529C	4 hrs	
3000-Level Elective	3/4 hrs	3000-Level Elective	3/4 hrs	
Research Elective	3 hrs	3000-Level Elective	3/4 hrs	
Total	13-15 hrs	Total	13-15 hrs	

**Burnett School of Biomedical Sciences  
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