



# Burnett School of Biomedical Sciences

## Bachelor of Science in Biomedical Sciences

### Molecular and Cellular Biology Track

Catalog Year 2019-2020

#### I. University Requirements

- UCF General Education Program (36 hrs)

#### II. Departmental Requirements (80 hrs)

- SLS 2311C Overview of Select Medical Careers 2 hrs  
*\*Recommended for pre-professional students*

#### A. Core Curriculum (67 hrs)

##### Life Sciences

- BSC 2010C Biology I 4 hrs
- PCB 4280 **-OR-** PCB 3233 Molecular Immunology or Immunology 3 hrs
- PCB 3233L Immunology Lab 1 hr
- MCB 3020C General Microbiology 5 hrs
- BSC 3403C Quantitative Biological Methods 4 hrs
- PCB 3522 Molecular Biology I 3 hrs
- PCB 4524 Molecular Biology II 3 hrs
- PCB 4028 Molecular and Cellular Pharmacology 3 hrs
- PCB 4234 Cancer Biology 3 hrs
- PCB 4529C Experimental Molecular Cell Biology 4 hrs

##### Chemistry

- CHM 2045C Chemistry Fundamentals I 4 hrs
- CHM 2046 Chemistry Fundamentals II 3 hrs
- CHM 2046L Chemistry Fundamentals II Lab 1 hr
- CHM 2210 Organic Chemistry I 3 hrs
- CHM 2211 Organic Chemistry II 3 hrs
- CHM 2211L Organic Laboratory Techniques I 2 hrs
- BCH 4053 **-OR-** BCH 4024 Biochemistry I or Medical Biochemistry 3 hrs/4 hrs

##### Math

- MAC 2311C Calculus with Analytic Geometry I 4 hrs  
*Prerequisites: MAT 1033C, MAC 1105C, MAC 114C, MAC 1140C*
- STA 2023 Statistical Methods I 3 hrs

##### Physics

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

#### B. Upper Division Restricted Electives (13 hrs)

Must take at least **4 restricted elective courses** (at least 1 must have a lab component and only 1 can be chosen from the full list of Biomedical Sciences restricted electives).

- |  |   |
|--|---|
| <input type="checkbox"/> BSC 4434 Bio Informatics: Seq Analysis  | <input type="checkbox"/> PCB 4284 Immunobiology                 |
| <input type="checkbox"/> MCB 4224 Molecular Biology of Diseases  | <input type="checkbox"/> PCB 4521 Tissue Engineering            |
| <input type="checkbox"/> MCB 4721C Methods in Biotechnology      | <input type="checkbox"/> PCB 4663 Human Genetics                |
| <input type="checkbox"/> PCB 3703C Human Physiology              | <input type="checkbox"/> PCB 4813 Molecular Aspects of Obesity  |
| <input type="checkbox"/> PCB 4174 Foundation Bio-Imaging Science | <input type="checkbox"/> PCB 5275 Signal Transduction Mechanics |
| <input type="checkbox"/> PCB 4264 Stem Cell Biology              | <input type="checkbox"/> ZOO 3744 Neurobiology                  |

**Note: Participating in AIM, GEAR, HUT (formerly HIM), PILOT, or PURE will substitute for one restricted elective.**

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

See the "Meaningful Unrestricted Electives" sheet for suggestions.

	Course	Credit Hours
Unrestricted Elective #1		



**Bachelor of Science in Biomedical Sciences  
Molecular and Cellular Biology Track  
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	
MAC 1105C	3 hrs	CHM 2046L	1 hr	
GEP #9	3 hrs	ENC 1102	3 hrs	
		MAC 1114C	3 hrs	
		SLS 2311C*	2 hrs	
Total	13 hrs	Total	14-16 hrs	

*\*Recommended for pre-professional students pursuing any of the following fields:  
Chiropractic, Dental, Medical, Optometry, Pharmacy, Podiatry, Veterinary*

Sophomore Year				
Fall		Spring		Summer
CHM 2210	3 hrs	BSC 3403C	4 hrs	
MAC 1140C	3 hrs	CHM 2211	3 hrs	
MCB 3020C	5 hrs	CHM 2211L	2 hrs	
GEP #4	3 hrs	MAC 2311C	4 hrs	
		GEP #5	3 hrs	
Total	14 hrs	Total	16 hrs	

Junior Year				
Fall		Spring		Summer
BCH 4053 <b>or</b> BCH 4024	3/4 hrs	PCB 3233L	1 hr	
PHY 2053C <b>or</b> PHY 2048C*	4 hrs	PCB 3522	3 hrs	
3000-Level Elective	3/4 hrs	PCB 4280 <b>or</b> PCB 3233	3 hrs	
3000-Level Elective	3/4 hrs	PHY 2054C <b>or</b> PHY 2049C*	4 hrs	
GEP #10	3 hrs	Restricted Elective	3/4 hrs	
Total	16-17 hrs	Total	14-15 hrs	

*\*Students enrolling in PHY 2048C/2049C must accommodate taking MAC 2311C/2312 as prerequisites*

Senior Year				
Fall		Spring		Summer
GEP #6	3 hrs	PCB 4028	3 hrs	
PCB 4234	3 hrs	PCB 4529C	4 hrs	
PCB 4524	3 hrs	STA 2023	3 hrs	
Restricted Elective	3/4 hrs	SPC 1603C* <b>or</b> SPC 1608	3 hrs	
Restricted Elective	3/4 hrs	3000-Level Elective	3/4 hrs	
Total	15-17 hrs	Total	16-17 hrs	

*\*Recommended*

**Burnett School of Biomedical Sciences  
Office of Student Services & Advising**  
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