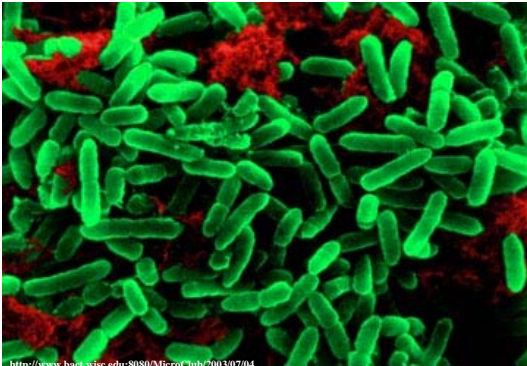




Burnett School of Biomedical Sciences



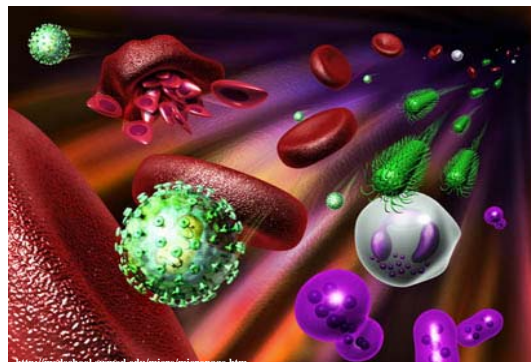
The Burnett School of Biomedical Sciences is a part of the College of Medicine at the University of Central Florida (UCF). The mission of the School is to provide quality undergraduate and graduate programs in the biomedical sciences and build vigorous research programs. The School offers the second most-popular undergraduate program in the university, B.S. in Biomedical Sciences, which meets the admission requirements for medical and other health professional school programs.

The Burnett School of Biomedical Sciences has 2,700 undergraduate majors in the Biomedical Sciences (including Biomedical Sciences Pre-professional Concentration), Biotechnology, and Medical Laboratory Sciences. The Biomedical Sciences B.S. offers two tracks within the major: Molecular Microbiology and Molecular and Cellular Biology. These tracks target students looking into specialized research masters and Ph.D. programs. The classes for the School's undergraduate programs are offered in the UCF Main Campus. A few select courses for the Biomedical Sciences B.S. are also offered at Valencia Osceola campus.



Students interested in professional schools are recommended to take SLS 2311 Overview of Select Medical Careers, which provides a wide scope of information about each medical and professional career. The course is offered Fall and Spring semesters as a 2 credit hour course. Biomedical Sciences majors planning to attend medical or other health professional schools should follow the Biomedical Sciences Pre-professional Concentration.

For more information on any of the programs offered by the Burnett School of Biomedical Sciences contact the Office of Student Services and Advisement, HPA II Room 335, (407) 823-5932, bsbsadvising@ucf.edu





Bachelor of Science in Biomedical Sciences

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 (83 hrs)

A. Core Curriculum (60 hrs)

- | | | |
|------------------------------------|---|-------|
| <input type="checkbox"/> SLS 2311C | Overview of Select Medical Careers | 2 hrs |
| | *Required for pre-professional concentration | |

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 4414 -OR- MCB 4410 | Microbial Metabolism or Cellular Metabolism | 3 hrs |
| <input type="checkbox"/> PCB 3522, 4524 | Molecular Biology I, II | 6 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 |
| | *Prerequisites: MAT 1033C, MAC 1105C, MAC 1114C, and MAC 1140C | |
| <input type="checkbox"/> STA 2023 | Statistical Methods I | 3 hrs |

Physics

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

B. Upper Division Restricted Electives (23 hrs)

Students must take at least **7 restricted elective courses**. At least **2 courses must be laboratory courses**. No more than 2 courses may be MLS courses. No more than 2 courses may be outside of the Biomedical Sciences Department. See separate sheet for a full list of restricted electives. * = **recommended for pre-professional students**

- | | | | |
|--|-------|---|-------|
| ❖ BOT 4434C General Mycology | 4 hrs | ❖ PCB 4028 Molecular and Cellular Pharmacology* | 3 hrs |
| ❖ BSC 3424 Nanobiotechnology | 3 hrs | ❖ PCB 4135 Applied Molecular Cell Biology | 3 hrs |
| ❖ BSC 4434 Biomedical Informatics: Sequence Analysis | 3 hrs | ❖ PCB 4174 Foundation of Bio-Imaging Science | 3 hrs |
| ❖ BSC 4439 Biomedical Informatics: Structure Analysis | 3 hrs | ❖ PCB 4234 Cancer Biology* | 3 hrs |
| ❖ MCB 3202 Principles of Infectious Disease* | 3 hrs | ❖ PCB 4264 Stem Cell Biology | 3 hrs |
| ❖ MCB 3203, 3203L Pathogenic Microbiology + Lab | 4 hrs | ❖ PCB 4284 Immunobiology | 3 hrs |
| ❖ MCB 4201 Microbial Stress Response | 3 hrs | ❖ PCB 4521 Tissue Engineering | 3 hrs |
| ❖ MCB 4204 Cell Microbiology: Host-Pathogen Interactions | 3 hrs | ❖ PCB 4529C Experimental Molecular Cell Biology | 3 hrs |
| ❖ MCB 4207 Infectious Processes* | 3 hrs | ❖ PCB 4663 Human Genetics | 3 hrs |
| ❖ MCB 4224 Molecular Biology of Diseases* | 3 hrs | ❖ PCB 4708L Lab Virtual Simulations in Physiology | 3 hrs |
| ❖ MCB 4276 Epidemiology of Infectious Diseases* | 3 hrs | ❖ PCB 4805 Endocrinology* | 3 hrs |
| ❖ MCB 4312 Molecular Biotechnology* | 3 hrs | ❖ PCB 4813 Molecular Aspects of Obesity | 3 hrs |
| ❖ MCB 4404 Bacterial Genetics and Physiology | 3 hrs | ❖ PCB 4832 Cellular and Molecular Brain Functions | 3 hrs |
| ❖ MCB 4503C Virology* | 3 hrs | ❖ PCB 4833 Advanced Human Physiology | 3 hrs |
| ❖ MCB 4603 Environmental Microbiology | 3 hrs | ❖ PCB 4843 Cellular and Molecular Neuroscience | 3 hrs |
| ❖ MCB 4721C Methods in Biotechnology | 4 hrs | ❖ ZOO 3701C Gross Anatomy/Dissection Techniques* | 3 hrs |
| ❖ MLS 3220C Techniques in Clinical Microscopy | 3 hrs | ❖ ZOO 3733C Human Anatomy* | 4 hrs |
| ❖ MLS 3305 Hematology* | 3 hrs | ❖ ZOO 3744 Neurobiology* | 3 hrs |
| ❖ MLS 4334 Hemostasis* | 3 hrs | ❖ ZOO 3755C Introductory Histology | 4 hrs |
| ❖ MLS 4430C Clinical Parasitology* | 2 hrs | ❖ ZOO 4605 Human Clinical Embryology* | 3 hrs |
| ❖ MLS 4505C Immunodiagnostics* | 3 hrs | ❖ ZOO 4742 Advanced Neurobiology* | 3 hrs |
| ❖ MLS 4625 Advanced Clinical Chemistry I | 3 hrs | ❖ ZOO 4743C Clinical Neuroanatomy & Neuroscience* | 4 hrs |
| ❖ MLS 4630 Advanced Clinical Chemistry II | 3 hrs | ❖ ZOO 4747C Clinical Neuroscience* | 4 hrs |
| ❖ PCB 3703C Human Physiology* | 4 hrs | ❖ ZOO 4753C Vertebrate Histology* | 4 hrs |

Note: Participating in GEAR, PURE, PILOT, or HIM will substitute for one restricted elective course.

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	
MAC 1105C	3 hrs	CHM 2046L	1 hr	
PSY 2012	3 hrs	ENC 1102	3 hrs	
OR SYG 2000		MAC 1114C	3 hrs	
OR ANT 2000		SLS 2311C**	2 hrs	
Total Hours	13	Total Hours	14-16	

***Required for students in the pre-professional concentration 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	
EUH 2000	3 hrs	MAC 2311C	4 hrs	
OR AMH 2010		EUH 2001	3 hrs	
OR HUM 2211		OR AMH 2020		
		OR HUM 2230		
Total Hours	14	Total Hours	16	

Junior Year				
Fall		Spring		Summer
BSC 2011C*	4 hrs	PCB 3233L	1 hr	
Restricted Elective	3/4 hrs	PCB 3522	3 hrs	
BCH 4053	3/4 hrs	Restricted Elective	3/4 hrs	
OR BCH 4024		PCB 4280	3 hrs	
ECO 2013	3 hrs	OR PCB 3233		
OR POS 2041		PHY 2054C	4 hrs	
PHY 2053C	4 hrs	OR PHY 2049C**		
OR PHY 2048C**				
Total Hours	13-17	Total Hours	14-15	

**Recommended for Vet School*
***Students electing to enroll in the PHY 2048C/2049C sequence must accommodate taking MAC 2311C/2312 as prerequisites*

Senior Year				
Fall		Spring		Summer
Historical & Cultural Foundations Course	3 hrs	Restricted Elective	3/4 hrs	
PCB 4524	3 hrs	Restricted Elective	3/4 hrs	
Restricted Elective	3/4 hrs	Restricted Elective	3/4 hrs	
Restricted Elective	3/4 hrs	STA 2023	3 hrs	
MCB 4414	3 hrs	SPC 1608	3 hrs	
OR MCB 4410		OR SPC 1603C**		
Total Hours	15-17	Total Hours	15-17	

***Recommended*

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**

Biomedical Sciences Restricted Electives

Students must take at least **7 restricted elective courses**. At least **2 courses must be laboratory courses**.

No more than 2 courses may be MLS courses. No more than 2 courses may be outside of the department.

*** = outside of the Biomedical Sciences department ** = recommended for pre-professional students**

BCH 4054 Biochemistry II*/**	PCB 4135 Applied Molecular Cell Biology
BCH 4103L Biochemical Methods*	PCB 4174 Foundation of Bio-Imaging Science
BOT 4434C General Mycology	PCB 4234 Cancer Biology**
BOT 4850 Medicinal Botany*	PCB 4264 Stem Cell Biology
BSC 3424 Nanobiotechnology	PCB 4284 Immunobiology
BSC 4434 Biomedical Informatics: Sequence Analysis	PCB 4402 Disease Ecology & Ecoimmunology*
BSC 4439 Biomedical Informatics: Structure Analysis	PCB 4514 Genetics II*/**
MCB 3202 Principles of Infectious Disease**	PCB 4521 Tissue Engineering
MCB 3203/L Pathogenic Microbiology + Lab**	PCB 4529C Experimental Molecular Cell Biology
MCB 4201 Microbial Stress Response	PCB 4663 Human Genetics
MCB 4204 Cellular Microbiology: Host-Pathogen Interactions	PCB 4678 Evolution and Medicine*
MCB 4207 Infectious Processes**	PCB 4683, 4683L Evolutionary Biology + Lab*
MCB 4224 Molecular Biology of Diseases**	PCB 4708L Lab Virtual Simulations in Physiology
MCB 4276 Epidemiology of Infectious Diseases**	PCB 4805 Endocrinology**
MCB 4312 Molecular Biotechnology**	PCB 4813 Molecular Aspects of Obesity, Diabetes, & Metabolism
MCB 4404 Bacterial Genetics and Physiology	PCB 4832 Cellular and Molecular Basis of Brain Functions
MCB 4503C Virology**	PCB 4833 Advanced Human Physiology
MCB 4603 Environmental Microbiology	PCB 4843 Cellular and Molecular Neuroscience
MCB 4721C Methods in Biotechnology	ZOO 3701C Human Gross Anatomy & Dissection Techniques**
MLS 3220C Techniques in Clinical Microscopy	ZOO 3733C Human Anatomy**
MLS 3305 Hematology**	ZOO 3744 Neurobiology**
MLS 4334 Hemostasis**	ZOO 3755C Introductory Histology
MLS 4430C Clinical Parasitology**	ZOO 4513 Animal Behavior*
MLS 4505C Immunodiagnosics**	ZOO 4603C Embryology/Development*/**
MLS 4625 Advanced Clinical Chemistry I	ZOO 4605 Human Clinical Embryology**
MLS 4630 Advanced Clinical Chemistry II	ZOO 4742 Advanced Neurobiology**
PCB 3063 Genetics*/**	ZOO 4743C Clinical Neuroanatomy & Neuroscience**
PCB 3703C Human Physiology**	ZOO 4747C Clinical Neuroscience**
PCB 4028 Molecular and Cellular Pharmacology**	ZOO 4753C Vertebrate Histology**

Note: Participating in GEAR, PURE, PILOT, or HIM will substitute for one restricted elective course.

Biomedical Sciences Course Prerequisites

Students must receive a “C” or better in all prerequisite courses, unless otherwise stated.

Core Courses

Course	Prerequisites
BCH 4024 Medical Biochemistry	CHM 2211
BCH 4053 Biochemistry I	CHM 2211
BSC 2010C Biology I	None
BSC 3403C Quantitative Biological Methods	BSC 2010C, CHM 2046, and MCB 3020C
CHM 2045C Chemistry Fundamentals I	Passing score on the Chemistry Placement Exam *If not passing, students enroll in CHM 2040/2041
CHM 2046 Chemistry Fundamentals II	CHM 2045C or CHM 2041
CHM 2046L Chemistry Fundamentals Laboratory	CHM 2046 (can be taken as a co-requisite)
CHM 2210 Organic Chemistry I	CHM 2046
CHM 2211 Organic Chemistry II	CHM 2210
CHM 2211L Organic Laboratory Techniques I	CHM 2046L and CHM 2210
MAC 2311C Calculus with Analytic Geometry I	Appropriate score on the Math Placement Exam or MAC 1105C, MAC 1114C, and MAC 1140C
MCB 3020C General Microbiology	BSC 2010C and CHM 2046
MCB 4410 Cellular Metabolism	PCB 3522 or PCB 3023
MCB 4414 Microbial Metabolism	BSC 3403C
PCB 3233 Immunology	BSC 2010C
PCB 3233L Immunology Laboratory	BSC 2010C
PCB 3522 Molecular Biology I	CHM 2211 and MCB 3020C
PCB 4280 Molecular Immunology	MCB 3020C
PCB 4524 Molecular Biology II	CHM 2211 and MCB 3020C
PHY 2048C General Physics Using Calculus I	MAC 2311C
PHY 2049C General Physics Using Calculus II	MAC 2312 and PHY 2048C
PHY 2053C College Physics I	MAC 1105C and MAC 1114C
PHY 2054C College Physics II	PHY 2053C
SLS 2311C Overview of Select Medical Careers	None
STA 2023 Statistical Methods I	Any MAC course



Restricted Electives

Course	Prerequisites
BSC 3424 Nanobiotechnology	CHM 2046 or PHY 2054C
BSC 4434 Biomedical Informatics: Sequence Analysis	PCB 3522 or PCB 3023
MCB 3202 Principles of Infectious Disease	MCB 3020C
MCB 3203 Pathogenic Microbiology	MCB 3020C
MCB 3203L Pathogenic Microbiology Lab	MCB 3020C and CR: MCB 3203
MCB 4201 Microbial Stress Response	PCB 3522
MCB 4207 Infectious Processes	MCB 3020C
MCB 4276 Epidemiology of Infectious Diseases	MCB 3020C
MCB 4312 Molecular Biotechnology	PCB 3522
MCB 4404 Bacterial Genetics and Physiology	PCB 3522
MCB 4721C Methods in Biotechnology	BSC 3403C
MLS 3305 Hematology	CHM 2210 and PCB 3703C
MLS 4334 Hemostasis	CHM 2210 and PCB 3703C
MLS 4505C Immunodiagnostics	PCB 3233 and PCB 3233L
MLS 4625 Advanced Clinical Chemistry I	CHM 2210 and PCB 3703C
PCB 3063 Genetics	BSC 2010C and CHM 2046
PCB 3703C Human Physiology	BSC 2010C and CHM 2045C
PCB 4028 Molecular and Cellular Pharmacology	PCB 3522
PCB 4174 Foundation of Bio-Imaging Science	CHM 2210, MAC 2311C, and PHY 2054C
PCB 4234 Cancer Biology	PCB 3522 or PCB 3023
PCB 4264 Stem Cell Biology	PCB 3522 or PCB 3023
PCB 4284 Immunobiology	PCB 3233
PCB 4514 Genetics II	PCB 3063 with a "B" or better
PCB 4521 Tissue Engineering	MCB 3020C or CHM 2045C
PCB 4708L Lab Virtual Simulations in Physiology	PCB 3703C or ZOO 3733C
PCB 4805 Endocrinology	CHM 2211 and PCB 3703C
PCB 4813 Molecular Aspects of Obesity	PCB 3522 or BCH 4053
PCB 4832 Cellular and Molecular Brain Functions	PCB 3703C and ZOO 3733C
PCB 4833 Advanced Human Physiology	PCB 3703C and ZOO 3733C
ZOO 3733C Human Anatomy	BSC 2010C
ZOO 3744 Neurobiology	BSC 2010C
ZOO 3755C Introductory Histology	PCB 3703C and ZOO 3733C
ZOO 4605 Human Clinical Embryology	ZOO 3733C
ZOO 4743C Clinical Neuroanatomy & Neuroscience	ZOO 3733C with a "B" or better
ZOO 4747C Clinical Neuroscience	ZOO 3744 or ZOO 4743C
ZOO 4753C Vertebrate Histology	ZOO 3733C



Plan of Study

Fall _____	
Course	Credits
<i>Total Credit Hours</i>	

Spring _____	
Course	Credits
<i>Total Credit Hours</i>	

Summer _____	
Course	Credits
<i>Total Credit Hours</i>	

Fall _____	
Course	Credits
<i>Total Credit Hours</i>	

Spring _____	
Course	Credits
<i>Total Credit Hours</i>	

Summer _____	
Course	Credits
<i>Total Credit Hours</i>	

Fall _____	
Course	Credits
<i>Total Credit Hours</i>	

Spring _____	
Course	Credits
<i>Total Credit Hours</i>	

Summer _____	
Course	Credits
<i>Total Credit Hours</i>	

Fall _____	
Course	Credits
<i>Total Credit Hours</i>	

Spring _____	
Course	Credits
<i>Total Credit Hours</i>	

Summer _____	
Course	Credits
<i>Total Credit Hours</i>	



Override Procedure for Biomedical Sciences Courses

****The Burnett School of Biomedical Sciences only handles overrides for courses offered within our department****

- ❖ Attempt to register for the course through <http://my.ucf.edu>. If this registration is not successful, make sure to **note the error** that is indicated in the error log accompanying the notice of unsuccessful registration.
- ❖ **Obtain an override form** from [HPA II 335](#) or online at biomed.ucf.edu.
- ❖ Students **MUST** bring one of the following:
 - ✓ A degree audit/course history
 - ✓ A copy of their unofficial or official transcript
- ❖ Students **MUST** also bring:
 - ✓ The exact class number (ex: 52230)
 - ✓ The subject prefix and catalog number (ex: MCB 3020C)
 - ✓ The lab class number, prefix, and catalog number (if needed)
- ❖ For students taking prerequisites at another institution, they must show proof that they are taking these courses at that institution (*class schedule, transient form, transcript, etc.*).

****Note that there are no overrides into closed courses****

Below is information on where to go for other common overrides.

- | | |
|---|---|
| <ul style="list-style-type: none">❖ <u>BIOLOGY OVERRIDES:</u>
(Ex. BSC 2010C, BSC 2011C,
PCB 3063)
<i>BIO 301</i>
TEL: (407) 823-2141 | <ul style="list-style-type: none">❖ <u>PHYSICS OVERRIDES:</u>
(Ex. PHY 2053C, PHY 2054C,
PHY 2048C, PHY 2049C)
<i>PSB 430</i>
TEL: 407-823-2325 |
| <ul style="list-style-type: none">❖ <u>CHEMISTRY OVERRIDES:</u>
(Ex. CHM 2045C, CHM 2046,
CHM 2046L, CHM 2210,
CHM 2211, CHM 2211L, BCH 4053)
<i>PSB 255</i>
TEL: 407-823-2246 | <ul style="list-style-type: none">❖ <u>MATH OVERRIDES:</u>
(Ex. MAC 1105C, MAC 1114C,
MAC 1140C, MAC 2311C,
STA 2023)
<i>MSB 207</i>
TEL: (407) 823-6284 |
- ❖ **GENERAL EDUCATION:** Handled by the department offering the course.



Office of Student Services and Advisement

Advising Hours

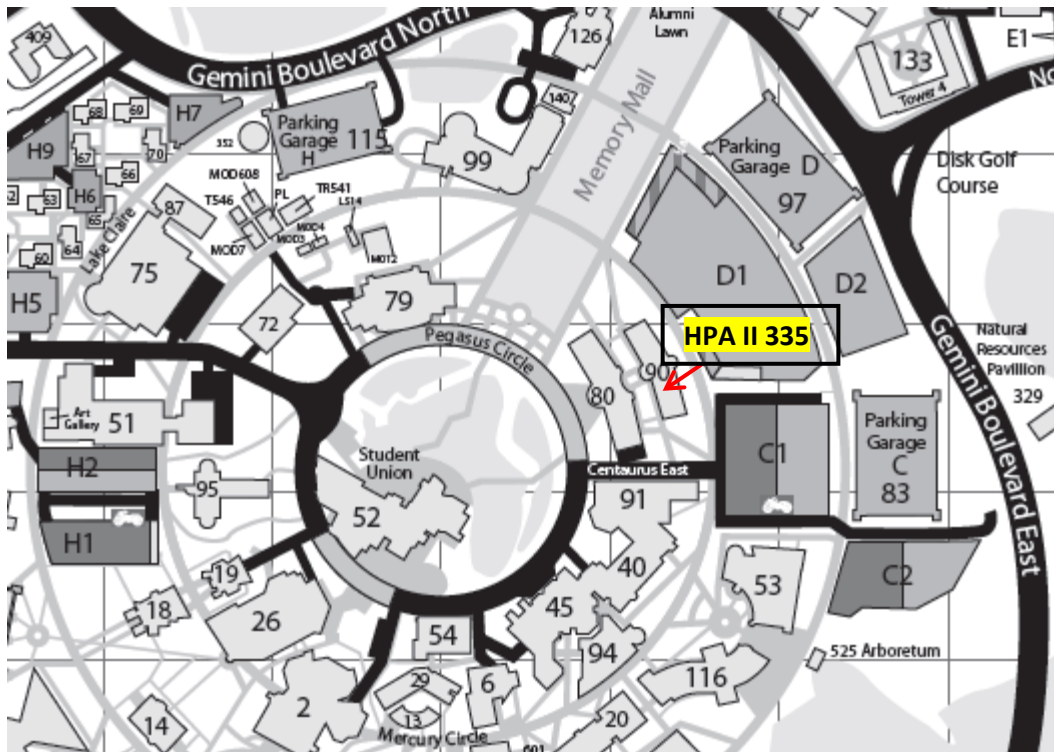
(Subject to change weekly)

Monday–Friday

8:30am–12:00pm & 1:00pm–4:00pm

Location

HPA II, Room 335



Contact Information

- **Phone:** (407)-823-5932
- **Email Advisor for Appointment (No walk in hours):**
 - Cynthia Contreras: cynthia.contreras@ucf.edu
 - Ana Maria Schwindt: ana.schwindt@ucf.edu
- **Website:** www.biomed.ucf.edu

Majors in BSBS

BS in Biomedical Sciences

BS in Biotechnology

BS in Medical Laboratory Sciences