

## 2018—2019

UCF Interdisciplinary Ph.D. Program in Biomedical Sciences Policies and Procedures Handbook



# Burnett School of Biomedical Sciences College of Medicine University of Central Florida

https://med.ucf.edu/biomed/

Updated: May 2018

## **Program Checklist**

Requirement	Date
	Completed
Lab Rotations completed (if applicable)	
Mentor selection – by end of third rotation	
Program of Study – by Spring of first year	
Dissertation Committee selection – by Fall of second year	
First Committee Meeting: Dissertation Proposal – Year 2 – November 30 <sup>th</sup>	
Candidacy Exam – taken in Summer of second year	
Submission of complete written candidacy proposal to committee – April 1 <sup>st</sup>	
Students to receive written critiques from committee – May 1 <sup>st</sup>	
Submissions of revised final written candidacy exam – June 1 <sup>st</sup>	
Oral defense of candidacy exam proposal – June 30 <sup>th</sup>	
Ethics/Responsible Conduct of Research Workshops – before	
Tanching requirement (2 semesters needed) before candidacy	
exam	
Annual Review Meeting – Nov. 30 <sup>th</sup> each year	
Year 3	
Year 4	
Year 5	
Required Symposium Presentation – 3 <sup>rd</sup> year	
Pre-Defense Meeting – occurs 1 semester prior to actual	
dissertation defense – submit form to office	
File Intent to Graduate on your myUCF	
Schedule Dissertation Defense Conference Room reservation	
Submit Dissertation to Committee – Must be submitted two	
weeks prior to defense	
Submit Dissertation Abstract for announcement distribution to	
program office – Must submit two weeks prior to defense	
Submit Graduation Follow Up Survey before Defense	
Dissertation Defense	
First Author publication	
Second Author publication	
Submit Dissertation Approval form and final Dissertation to	
program office	

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The Biomedical PhD program reserves the right to make any changes or amendments to the Program/Handbook within the students' period of study upon majority approval of the program faculty, director and coordinators.

## WELCOME MESSAGE FROM THE DIRECTOR



Welcome to the Biomedical Sciences Graduate Program at UCF!

We are excited that you have chosen UCF and our Graduate Program to continue your training and education in Biomedical Sciences. We offer a wide range of training opportunities in important areas of biomedical research including Cancer Biology, Cardiovascular Disease. Neurosciences and Infectious Disease and Immunology. In the past years, the Program has grown in the numbers of both students and faculty mentors. Our researchers have also experienced a rapid rise in our funding for impactful research projects, as well as in our reputation for outstanding training of the next generation of Biomedical Scientists. We look forward to having you as an important part of our Graduate Student Community.

Griff Parks, PhD Interim Associate Dean for Research Director, Burnett School of Biomedical Sciences Director, UCF Biomedical Sciences Graduate Program Professor of Medicine University of Central Florida College of Medicine 6900 Lake Nona Blvd Orlando, FL 32827 Office : (407) 266-7011 Cell: (336) 970-1598 <u>Griffith.Parks@ucf.edu</u>

#### Program Coordinators Introduction & Welcome

Welcome to the Interdisciplinary Biomedical Sciences Ph.D. program at the University of Central Florida (UCF)! As a doctoral student, you will face many new experiences that can be both rewarding and challenging. Your studies will involve foundational coursework and laboratory research. You will have the opportunity to work closely with faculty members from the Burnett School of Biomedical Sciences (BSBS) as well as other schools and colleges within UCF and affiliated partners in the Orlando area. Within the BSBS, investigative work is being performed in the major fields of cardiovascular and metabolism science, neuroscience, infectious disease and cancer. Collaborative research is an integral part of the Biomedical Ph.D. program. As a result, you will have also the opportunity to interact with scientists performing cutting edge research in related fields such as biomedical engineering, biology, chemistry, physics and nanoscience.

The Biomedical Sciences Ph.D. program will prepare you for a career in academic research, higher education or biotechnology. Expectations are for you to go beyond the assigned classroom readings and use your curiosity to explore new research areas, building a knowledge base to support your career as an independent scientist. Oral presentations and writing assignments will teach you the skills needed to effectively communicate your discoveries to the scientific community.

The process of achieving a doctoral degree will demand dedication and effort that go far beyond your undergraduate experiences. The expectations are high but also are the achievements and rewards. With the support of your advisor and committee, you will be part of an intellectual collaboration that will highlight your graduate career at UCF and provide a firm underpinning for the rest of your scientific endeavors.

The program director, the associate director, the program coordinators, the faculty and the staff are available to help you succeed in the program. You are encouraged to interact with your peers and to participate in the intellectual life of the university. You are committed to upholding the academic and ethical standards of UCF and the discipline of Biomedical Sciences. If you have any questions or problems, please ask for advice.

We wish you the utmost success during your graduate experience at UCF!



Dr. Saleh Naser

We are here to help!



Dr. Jihe Zhao

## **Burnett School of Biomedical Sciences Graduate Services Office**

Welcome New Graduate Students,

We are here and ready to answer all of your questions! Please read important information below and let us know how we can help.

The Biomedical Sciences Graduate Services Office is an integral part of ensuring your success in the doctoral program. We are heavily involved in making sure you complete your required milestones throughout your doctoral student careers.

Beginning with orientation, we will assist you with course registration, program of study, seminars, committees, symposiums, dissertation defenses, and tracking your achievements throughout your time in the program.

Moreover, we are a critical link of communication between you and our program directors and coordinators, keeping all parties up to date on the latest protocols and information for the department. We are available to assist you by phone, email or in person (by appointment). Please review contact information below:

#### Website - https://med.ucf.edu/biomed/

Program Emails below for your reference	Lisa Vaughn
Graduate Information – <u>BSBSGradInfo@ucf.edu</u>	Sr. Admissions Specialist
Graduate Registration – <u>BSBSGradRegistration@ucf.edu</u>	
Graduate Forms – <u>BSBSGradForms@ucf.edu</u>	Shannon Connally
Graduate Appointments – <u>BSBSGradAppts@ucf.edu</u>	Administrative Assistan

#### **Office Location Main Orlando Campus:**

Biological Sciences Building (BMS)

Suite 136, 1st Floor (Ph. 407-823-4677)

#### Office Location Lake Nona Health Sciences Campus:

Thursday - By Appointment Only

Burnett Building (BBS)

1<sup>ST</sup> Floor – Front Desk Check in with Photo ID

#### **FACEBOOK**

Like us on Facebook! https://www.facebook.com/BurnettSchool GraduatePrograms/

#### **Mission Statement and Overview:**

Mission: The Biomedical Sciences doctoral training program at the University of Central Florida, College of Medicine, provides the highest quality education and research opportunities for training the next generation of biomedical scientists.

The Program is an interdisciplinary program enriched with graduate faculty with diverse investigative biomedical research interest and highly qualified students who are pursuing top education and cutting edge discoveries.

The Graduate Faculty includes more than 80 reputable scientists with established achievements in diverse aspects of biomedical sciences including metabolic disorders, cardiovascular sciences, infectious disease, neuroscience, cancer, nanoscience, biomedical engineering, drug discovery, and much more.

Visit: https://med.ucf.edu/biomed/graduate-programs/graduate-faculty/.

Our students are recruited from outstanding programs from all over the United States and over 18 other countries. They are supported by competitive scholarships and prestigious fellowships. Our students receive top tier education, rigorous training in basic and clinical research, outstanding mentoring, and lifelong professional development. They become well trained in research and regulations while conducting experiments involving the use of human subjects and animals. They learn, retain, and apply fundamental knowledge in biomedical sciences. They graduate from the program as scientists with excellent education, research training, and focused career goals. Many go on as postdoctoral fellows, academics, scientists, and researchers.

Visit: https://med.ucf.edu/biomed/graduate-programs/wherearetheynow/

The curriculum of the Biomedical PhD program is continuously adapting to rapid changes in technology, science, ongoing research, public health, and evolving microbiome and genetic discoveries. All students must successfully complete core courses with a focus on fundamental knowledge in molecular and cell biology, microbiology, biochemistry, immunology, neuroscience, bioinformatics, stem cell, metabolic, cancer, drug discovery and delivery, and more.

All students are required to complete the online Collaborative Institutional Training Initiative (CITI), Responsible Conduct of Research

training and four face-to-face ethics/RCR workshops coordinated by the UCF College of Graduate Studies and the Office of Research and Commercialization. First year students prior to their laboratory rotation are required to complete laboratory safety, radiation safety, biosafety, and blood borne pathogen courses. Students are also required to attend Pathways to Success seminar series including Academic Integrity, Graduate Grantsmanship, Graduate Teaching, Personal Development, Professional Development, and Research.

The program administrators, faculty and staff are dedicated to educate, train, and mentor tomorrows scientists and future colleagues and collaborators. Our Graduate Student Association plays the big brother/sister role to complements the role of our faculty to help our students feel at home and succeed.

#### **Policy Statement on Academic Integrity:**

Integrity is a critical foundation of science and scientific training. As such, any incident of cheating, plagiarism, or other forms of academic misconduct at any time by any student in the programs, may result in dismissal from the program. All graduate programs organized in the Burnett School of Biomedical Sciences hold students to the highest standards of academic conduct and scientific conduct.

There are many forms of misconduct, both in academics and in science. In research, these primarily include the falsification or fabrication of data during one's research project, or the plagiarism of text, figures or data from someone else's work (such as a published or on-line paper). These examples of misconduct, as well as other examples will be discussed in the Practice in Biomedical Science course or other courses.

In academics, the unauthorized use of electronic devices during exams, or any other means to gain an advantage during an examination will be considered academic misconduct. Copying another student's work who is currently taking a course or previously took a course will also be considered academic misconduct. Both the student who supplied such material and the student who attempts to use such material are both in violation of the standards.

Many other examples of misconduct exist and common sense should dictate to the student what is and is not permissible. If you question whether an action could be considered misconduct (academic or scientific) – ask the program coordinator or BSBS director. **Ignorance of what constitutes misconduct is not an excuse.** 

#### **Disciplinary Policy:**

The graduate program reserves the right to carry out full disciplinary action against student misconduct. Any documented case of scientific or academic misconduct is the basis for immediate dismissal from the program. The incident(s) will be reported to the student's advisor, the graduate committee, and the UCF Office of Student Conduct. After reviewing the case, the Director of the Biomedical Sciences Graduate program will have the authority to recommend dismissal of the student from the graduate program.

#### Policy Statement on enforcement of programmatic requirements

Students who fail to complete programmatic requirements (e.g., dissertation proposal defense, candidacy exam, annual dissertation committee review) by the specified deadlines\* may be placed on academic probation. If this occurs, the student will be given specific written notice of the terms of the probation and will have one semester to correct the deficiency. In most cases, the student's dissertation committee will be responsible for evaluating the student's progress. If a dissertation committee has not been formed, then evaluation will be performed by the Program Coordinator in conjunction with the sponsoring PI. The evaluation body will meet with the student and spell out the terms of the probation, and then will meet with that student again within one semester to determine if the terms of the probation have been satisfactorily met. If the deficiency is corrected, then the probation will be lifted. If the student fails to correct the deficiencies within the specified time period (1 semester), then the student will not be permitted to register for classes or receive financial support from the program and may be subjected to dismissal from the program.

All official communications regarding probation must include the Biomedical Sciences PhD Program Associate Director and the Associate Dean of Graduate Studies.

#### **Grievance Procedures**

If significant issues arise between a student and their mentor that cannot be resolved amicably, the student should first consult with the Program Coordinators and secondly with the Program Director to resolve the issues. If these first steps do not resolve the conflict, the student has the right to request a dissertation committee meeting to attempt to resolve such issues. This request for a meeting of the full committee cannot be overruled by the Chair (Mentor) and the meeting should be chaired by a dissertation committee member and not the mentor. If sought by the student this meeting should also include at least one PhD coordinator. The PhD program director, associate director and all coordinators should also be informed of the meeting and have the right to attend to help resolve the issue(s).

#### Student Responsibility to Keep Informed

It is the student's responsibility to keep informed of all rules, regulations, and procedures required for graduate studies. Graduate program regulations will not be waived or exceptions granted because students plead ignorance of the regulations or claim failure of the adviser to keep them informed.

#### Changing Your E-mail, Address or Phone Number

It is important to remember that all official university communication will be sent to your e-mail address or physical address on file. Students are responsible for updating their e-mail, physical address, and phone number. This can be done online through myUCF or by submitting a written request to the Student Services office.

## Fall 2018 Academic Calendar

#### http://calendar.ucf.edu/2018/fall

The Registrar's Office manages the official Academic Calendar, which contains the dates and times for all registration periods, application deadlines, holidays, special events, and more. You can filter the calendar, save it, or subscribe to it!

# Graduate Programs

## **RESEARCH DIVISIONS**

#### I. Division of Cancer Research

Researchers in the Division of Cancer Research are on the vanguard of cancer biology, investigating:

- How patients' genes play a role in their cancer risk.
- What causes cancer and cancer metastasis.
- How cancer cells communicate with the neighboring normal cells.
- The epigenetic changes that play a role in developing drug resistance.
- Discovering new ways to harness the immune system to fight cancer.
- Identifying new targets for companion diagnostics with treatments that reduce side effects

https://med.ucf.edu/biomed/divisions/cancer-research/

#### II. Division of Immunity and Pathogenesis

The mission of the Immunity and Pathogenesis Division is elucidation of the cellular and molecular mechanisms at the interface of infection, inflammation and immunity. Our group has broad interest and expertise in microbial pathogenesis, innate immunity, inflammatory signaling pathways and immunological memory.

Discoveries are being translated into innovative diagnostics, vaccines, and therapeutic strategies to improve human health. Projects are related to:

- Respiratory diseases (Influenza, Parainfluenza, Respiratory Syncytial Virus)
- Asthma and Tuberculosis
- Sexually transmitted diseases (Chlamydia trachomatis)
- Human papilloma virus and Zika virus
- Vector-borne diseases (Lyme disease and emerging vector borne viruses) and inflammatory diseases (Inflammatory bowel disease).

https://med.ucf.edu/biomed/divisions/infectious-disease/

#### III. Division of Metabolic and Cardiovascular Sciences

The Metabolic and Cardiovascular Research Division focuses on understanding the pathogenesis, molecular mechanisms and cell signaling of metabolic and heart diseases and to bring translational research into the clinical environment to serve our community.

#### **Major Areas of Research**

- Metabolic Syndrome in Diabetes and Aging
- Interactions of lipids and lipoproteins in Atherosclerosis
- Inflammation in Cardiac Diseases (Myocardial infarction, Heart failure, Atherosclerosis)
- Vascular and Angiogenesis in Cardiac Diseases
- Biological Energy metabolism
- Oxidative Stress, Free Radical and Reactive oxygen species
- Mitochondrial Alterations Pathophysiology of Cardiac Diseases
- Molecular and Cellular Cardiology
- Regenerative Medicine (Stem cells) in Heart Diseases
- Cardiac Genetic and Non-Genetic Disease Modeling using 3D Printing
- Tissue Engineering and Drug Toxicity with 3D Printed Scaffolds
- Peripheral Arterial Diseases
- Developmental Biology
- Cardiovascular Epidemiology and Public Health

https://med.ucf.edu/biomed/divisions/cardiovascular/

#### IV. Division of Neuroscience

The mission of the Neuroscience Division is to discover cellular and molecular mechanisms that govern normal development and function of the nervous system. This knowledge is then applied to expand understanding of how neurological disorders arise and may be treated. Current focus is on movement disorders such as Parkinson's, ALS, peripheral neuropathies that damage neurons and myelin, as well as Neurofibromatosis, a genetic disorder that promotes tumorigenesis in the nervous system.

The division's researchers are conducting cutting-edge research on:

- Schwann cell biology and development of peripheral myelin
- Non-myelinating glia
- Axonal transport mechanisms
- Oxidative and nitrative stress in neurons and nervous system tumors
- Cell metabolism related to neuronal death and tumor formation

- Autonomic innervation of the heart in diabetes and aging
- Mitochondrial biogenesis and bioenergetics
- Neurofibromatosis Type 2 and Schwannomatosis
- ALS, Parkinsons, Alzheimers Diseases
- Stem cells therapies, Nerve injury and regeneration

https://med.ucf.edu/biomed/divisions/neuroscience/

#### V. <u>Division of Molecular Microbiology</u>

The Division of Molecular Microbiology conducts basic and applied research related to bacterial, parasitic, and viral diseases that are of major public health concern. Research is focused in two broad areas:

- Understanding the fundamental principles of microbial pathogenesis.
- Development of next-generation antimicrobial drugs.

Topics of interest include HIV, tuberculosis, malaria, mechanisms of antimicrobial resistance, enteric diseases, toxins, and diagnostics. Student training and development are integral components of faculty research.

https://med.ucf.edu/biomed/divisions/molecular-microbiology/



## Burnett School of Biomedical Sciences

## PhD Program in Biomedical Sciences Curriculum & Requirements

## Program Curriculum

Completion of the Biomedical Sciences PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. This includes a minimum total of 27 hours of formal course work exclusive of independent study.

The program requires 23 credit hours of core courses, 12 credit hours of electives, and a minimum of 15 credit hours of dissertation research. The remaining 22 credit hours may consist of additional electives, doctoral research and/or dissertation research. Students with an earned master's degree may request that up to 30 credit hours of previous course work be applied to the credit hour requirement.

New students will take a two-semester Core course, participate in laboratory rotations to identify a research area of interest, and enroll in elective courses to prepare them to carry out their research. Students are also required to enroll in seminar courses and to participate in the program's seminar series. All students are required to attend and participate in the annual program symposia. Students may register for doctoral research until they have been admitted to candidacy, after which they must register for dissertation research.

All students in the program should be enrolled enroll full time including summer.

## Required Courses—23 Credit Hours

- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hrs.)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (3 credit hours)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (1 credit hour)
- IDS 7690 Frontiers in Biomedical Sciences (four semesters, 1 credit hr. each sem)
- BSC 6431 Practice of Biomedical Science (3 credit hours)
- IDS 6694 Experimental Design and Analysis in Biomedical Sciences (2 credit hours)

## Elective Courses—12 Credit Hours

At least 12 hours of electives must be taken from the following list. The mentor and the program must approve any electives not on this list before being counted toward degree credit requirements. Directed research, doctoral research and dissertation research may be used to satisfy requirements beyond the first 12 hours, with approval from the program.

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- BSC 5665 Clinical Embryology & Congenital Malformations (3 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- CAP 5510 Bioinformatics (3 credit hours)
- CAP 6616 Neuroevolution and Generative and Developmental Systems (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHS 6251 Applied Organic Synthesis (2 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 5254 Human Factors and Aging (3 credit hours)
- EXP 6116 Visual Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)

- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5235 Molecular Immunology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanics (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5596 Biomedical Informatics: Sequence Analysis (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes, and Metabolism (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 6585C Advanced Genetics (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 6677 Molecular Evolution and Phylogenetics (3 credit hours)
- PET 6366 Exercise, Nutrition, and Weight Control (3 credit hours)
- PET 6388 Cardiovascular Physiology (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- PSB 6328 Psychophysiology (3 credit hours)
- PSB 6348 The Neuroanatomical Basis of Psychological Function (3 credit hours)
- PSB 6352 Neuroimaging Design and Analysis Methods (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)

- ZOO 5748C Clinical Neuroanatomy (3 credit hours)
- ZOO 5749C Clinical Neuroscience (3 credit hours)
- ZOO 5758C Vertebrate Histology (3 credit hours)
- ZOO 6737 Clinically Oriented Human Anatomy (4 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- PCB 6595 Gene Expression (3 credit hours)
- GMS 6860 Statistics for Biomedical Scientists (3 credit hours)

Others: If approved by Graduate Committee

## Unrestricted Electives—22 Credit Hours Minimum

Students should take 22 credit hours including electives, directed research, doctoral research or dissertation research, in consultation with their adviser.

## Dissertation—15 Credit Hours Minimum

IDS 7980 Dissertation Research (15 credit hours)

## Laboratory Rotation

During orientation, new incoming students will attend short presentations by faculty who will highlight their research program. Students should meet with faculty of their interest for further discussion about research to help them select their lab rotations.

Possible discussion points when considering a lab rotation

- Ask about the mentor's philosophy of mentoring and the level of interaction you will have with the mentor Inquire about the expectation of rotation students and projects you could possibly be working on/hours required in the lab
- Find out the mentor's record of graduating students/time to graduate
- Ask about the labs publication record/quality of the publication journals
- It is important that you ask about funding availability for the lab (Short-term & Long-term, 4-5 yrs.)
- Does the mentor support your career goal(s) ?

- Ask about the whereabouts of the mentor's past trainees including students and postdocs and the reasons why if any student failed to graduate.
- Ask about the mentor's policy regarding topics for the candidiacy proposal.

## Lab Visit/Lab Rotation

- Ask for permission to visit the lab
- Observe the culture of the lab while visiting or during rotation. Consider lab space, lab resources
- Survey students, postdocs in the lab and others who have rotated through the lab about their experiences. Ask if students in the lab attend and present at scientific meetings. Ask about the mentor's strengths and weaknesses and consider their feedback
- Ask yourself if this is the right environment for you; does your personality fit the environment
- It is ok to ask a lot of questions so you can make the right decision.
- Analyze the Pros and Cons of your selection.

All new incoming students are REQUIRED to rotate in at least 2 different laboratories before selecting a mentor. Each rotation will be 7 weeks long. Specific dates may change each year but generally adhere to the following schedule:

- > 1st Rotation September 3 through October 19
- 2nd Rotation October 22 through December 14
- > 3rd Rotation, if necessary January 7 through February 22

Students are encouraged to identify their dissertation mentor as soon as possible after completing a minimum of two rotations, but they may opt to do a third rotation if needed. Students are expected to have identified a research mentor no later than the end of the  $3^{rd}$  rotation. If no suitable lab can be found within 3 rotations, the student will be dismissed from the program. Program approval is required for any additional short rotations, if necessary.

## Written rotation evaluations

During rotations faculty will be evaluating your attendance, level of commitment, your laboratory skills, intellectual curiosity, communication

skills, achievements and areas in which you can improve.

Written rotation evaluations (signed form or official e-mail notification from PI) must be submitted to the program coordinator by the PI for each student. The evaluations will be graded S/U. *If the student receives a "U" for a rotation, the PI should briefly indicate the reasons in writing. This information should be made available to the student and also be accessible to any other PhD program faculty with whom that student is considering rotating. Students that receive 2 "U" marks during their rotations will be automatically dismissed from the program.* 

#### Exemptions from laboratory rotations (Direct admit to the lab)

Exemptions from laboratory rotations may be granted by the program if the student had already worked for a minimum of one year in the laboratory of one of the program faculty prior to the start of the graduate study, or in cases where a student is coming to UCF to join a specific research program.

If approved, the mentor will immediately assume full financial responsibility for the student unless the student has not fulfilled the GTA requirement. GTA support for one year will then be provided by the program.

#### **Committee Selection Process**

The students are required to select the dissertation committee by the end of the first year. All committee members must be approved by the college of graduate studies as program faculty. The committee shall consist of a minimum of four faculty members representing at least two different participating units (such as divisions in the Burnett School of Biomedical Science, all departments in the college of medicine, Biology, Nanoscience Technology Center, Chemistry, Physics, Engineering, other affiliated units at or outside UCF) The chair of the dissertation committee is the student's primary advisor (mentor) if approved by the College of Graduate Studies to serve as a chair. Program Faculty who has not previously supervised a dissertation to completion must ask a senior UCF faculty member on the committee (and must be approved by Graduate Studies to serve as Chair) to serve as the chair. The Faculty advisor (mentor) will serve as co-chair on the committee.

This policy is only to ensure compliance with UCF graduate policies and it should not interfere with the faulty mentoring or expectations from the students. In cases where the primary advisor is a non-UCF Investigator (i.e., Courtesy Faculty Appointments from faculty at institutions other than UCF), then one of the UCF faculty members on the student's dissertation committee will serve as co-chair of the committee together with the student's primary advisor. At least two UCF faculty members must serve on the student's dissertation committee, and at least one of these must be at the rank of Associate or Full Professor.

## <u>BSC 6432/6433 Structure-Function-Relationships -</u> <u>Cumulative/Qualifying Examinations</u>

• The Cumulative exam evaluates the student's ability to apply fundamental knowledge and laboratory approaches in Biomedical Sciences and related disciplines to test a hypothesis, which may have impact on biomedical research and scientific discoveries. The exam questions are included in BSC 6432 Structure-Function-Relationships of Biomedical Sciences I and in BSC 6433 Structure-Function-Relationships of Biomedical Sciences II.

The exam in administered by Faculty who are teaching these two courses. Questions are based on data interpretation from the current literature and the design of experiments to test a hypothesis.

• A grade below "B" in either BSC 6432 Structure-Function-Relationships of Biomedical Sciences I or BSC 6433 Structure-Function-Relationships of Biomedical Sciences II will result in dismissal from the program.

## **Candidacy Examination**

Candidacy to the degree will consist of writing and orally defending a written proposal on a research idea. The written proposal will be prepared independently, following NIH-style grant proposal format, and must be approved by the dissertation committee as outlined later in the Handbook.

After passing the candidacy examination and meeting other requirements as specified, the student can register for dissertation hours.

## Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

• Successfully complete a minimum of 48 credit hours.

- Successful completion of all course work, except for dissertation hours.
- Submittal of an approved program of study.
- Successful defense of the written dissertation proposal
- Successful completion of all examinations (BSC 6432/6433 cumulative and candidacy).
- Successful Successful completion of Academic Integrity requirements

## The Process:

- Students are encouraged to start working on candidacy exam as soon as the dissertation committee approves the candidacy topic. Candidacy proposal topic can be on a dissertation-related research topic or outside the dissertation area this is decided in consultation with the faculty advisor before work begins on candidacy process. If a dissertation related idea is selected for the candidacy proposal then a written approval from the mentor is required. Either option will also require approval from the dissertation committee as outlined below.
- Students who chose to do the proposal on research outside the dissertation research area must submit to the dissertation committee 3 titles including a short one-paragraph summary for each title to seek approval for one. Students who chose to do the candidacy proposal on dissertation research-related area must submit to the dissertation committee the title of the candidacy proposal for approval. This should be submitted no later than November 30, the earlier the better!
- 2. The dissertation Committee must approve the Candidacy topic no later than **January 1**5.
- 3. Students must submit a written candidacy proposal to the committee by **April 15**.
- Students must present and defend their Candidacy proposal by May 15.
- 5. If a student fails to pass the exam, a second and final attempt will be granted. This should be completed by 6/15.
- 6. This is an Exam. No faculty input is allowed on any aspect of the written and oral portions of the candidacy proposal.
- 7. The dissertation committee includes the mentor and three additional program faculty including a faculty member who has research program focused on a topic outside of the immediate

research area being proposed. The mentor cannot be chair of the candidacy exam.

8. During program orientation, new incoming students will be provided with a document example of a successful proposal.

The proposal should be written in the approximate style of an NIH R21 or F31 grant application. This includes one page for specific aims and up to six pages for the Research Plan. There is no page limitation for references. The specific aims page should identify the problem under study, clearly state a central hypothesis, and include two or more specific aims to test your hypothesis. A brief rationale should be provided for each aim. For the research plan, please be sure to address the following: (i) Background, (ii) Significance, (iii) Research Approach (Design & Methods), (iv) Rationale for your experimental approach, (v) Expected results, and (vi) Potential pitfalls and alternative strategies. The research plan should be feasibly achievable within 2-3 years, and each of the aims should ideally lead to tangible first-author manuscript publications for the student. Preliminary data are not necessary for the candidacy exam, but can be included to strengthen the proposal. The written format will be single-spaced using 11pt Arial font and 0.5" margins.

During the oral examination, the student should be able to answer any questions concerning how the proposed experiments will be executed. There should be a full understanding of the background literature that supports the hypothesis and the rationale behind the research proposed. The student must be able to clearly explain the experimental procedures to be used and any alternative approaches planned.

The student may also be tested on the extent of their knowledge of biomedical sciences, specifically all materials that were covered in core class (BSC6432/6433), seminars, other required and elective courses that the student has taken. The mentor is NOT permitted to ask or answer questions for the student during the oral presentation of the candidacy topic and examination unless specifically asked to do so by one of the committee members for the purpose of clarification only.

The student's mentor will be responsible for checking the proposal for plagiarism using iThenticate and will provide a report to the dissertation committee at the time of the oral defense of the candidacy proposal.

For the oral candidacy exam, the student's dissertation committee will pick one of its senior members (but not the student's mentor) to chair the examination meeting.

All dissertation committee members must be present for the oral component of candidacy exam. It is the responsibility of the student to schedule a defense date and time, which are amenable to all committee members. Only if necessary, and approved by the program, a skype attendance by one of the committee member is allowed. The committee chair must be present in person.

#### Oral candidacy proposal defense:

The defense will start by the presentation of the proposal by the candidate to the Ph.D. dissertation committee. The presentation will start with a 5-8 minute description of the background and significance of the proposed research. This is followed by stating the hypothesis. The next step is the presentation of the specific aims with clear rationale and connection to the hypothesis. Following this, a description of the experimental design should be presented. The expected results and how conclusions will be drawn from the results should be presented. Possible pitfalls of the experimental approach, potential complications and possible alternate approaches to the hypothesis should be presented.

The total presentation is expected to last no more than 40 minutes. The faculty may interrupt the presentation to ask questions. Following the presentation, a question and answer period will follow. During this time, the committee can ask the student questions unrelated to the exact candidacy topic that test knowledge acquired during the student's first two years in the program. The total exam time is expected to last 2 hours.

The exam is evaluated by pass/fail decision. At least three out of the four regular dissertation committee members must vote positively for the student to pass. If performance during the oral exam is deemed not satisfactory, a second chance will be given to the student which should be concluded by no later than June 15.

## **Re-examination:**

The process may include a rewritten proposal and another oral defense of the revised proposal, depending on the strengths and weaknesses of the first attempt.

The student will have a maximum of 30 days from the time of the exam and no later than June 15 to revise and resubmit the proposal for reevaluation. This resubmitted proposal must be submitted to all committee members at least two weeks prior to any oral re-examination (if an oral re-examination is stipulated by the committee and coordinator). This will be determined by the committee at the first defense. A student who fails the candidacy exam after the second try will be dismissed from the program.

Candidacy Exam Approval Form must be submitted to the Program Office and processed by the College of Graduate Studies.

#### **Dissertation**

The dissertation should be of significant scope and depth such that the work has made significant advances in the area of biomedical science.

The PhD dissertation research must generate sufficient quantity and quality of data to support a minimum of two original manuscripts (first-authored by the student) in a mainstream journal with impact factor of at least 2.0. First co-authorship is allowed if equal contribution of the 2 first author is documented.

Writing of the dissertation should be subjected to the General Guidelines for Alternative Organization in the <u>Thesis and Dissertation Manual</u> of the UCF College of Graduate Studies Thesis and Dissertation office.

#### **Dissertation Pre-Defense**

After consultation with the mentor/dissertation committee chair and approval from the program, students can proceed to hold a pre-defense committee meeting. Prior to the meeting, there should be one first-author original research article published/accepted in journal of Impact factor of at least 2. A meeting with the full dissertation committee must occur at least one semester prior to the actual defense date.

The committee will critically evaluate whether or not the student has fulfilled all program requirements and is ready to proceed to defense. Recommendations from the committee should be very specific, and indicate in writing which issues, if any, the student must complete or resolve prior to scheduling of the final defense date.

#### **Dissertation Defense**

Students should seek approval from the program to hold their dissertation defense meeting. The program in consultation with mentor/dissertation chair will confirm that the students have met all the recommendations provided from the pre-defense dissertation meeting:

- Pre-defense-requirements met (see above)
- plus an additional first author manuscript submitted to a journal in the field with an impact factor of at least 2.0 (unless the

student has satisfied the latter requirement prior to the predefense meeting).

Endorsement by the PI and committee is required.

Once a student is approved to defend their dissertation work, he/she can write the dissertation. For specific formatting guidelines for the dissertation, see the general guidelines in the <u>Thesis and Dissertation</u> <u>Manual</u> of the College of Graduate Studies Thesis and Dissertation office (see below). A written copy of the dissertation must be submitted to the dissertation committee at least two weeks prior to the defense date.

Members of the dissertation committee may ask for a paper copy of the dissertation or an electronic copy (pdf) file. The dissertation must be submitted to the committee at least two weeks prior to the defense date.

All dissertation committee members must be present for the oral component of candidacy exam. It is the responsibility of the student to schedule a defense date and time, which are amenable to all committee members. Only if necessary, and approved by the program, a skype attendance by one of the committee member is allowed. The committee chair must be attend in person.

The Ph.D. dissertation defense will consist of presentation of the results in a seminar format to the biomedical science program and overall science community at UCF followed by questions from the dissertation committee and Program faculty. Three out of the four regular Ph.D. committee members must vote positively for the student to pass.

## **Independent Learning**

The dissertation serves as the independent learning experience.

## Professional Seminars, Colloquium and Symposia

Students are strongly encouraged to attend departmental seminars including the weekly BSBS Friday seminar, the research divisions meetings, and guest seminars.

Presenting and attendance at the annual BSBS colloquium and symposia is required. Presentations at other settings including research divisions cannont substitute for this requirement.

## **Attendance Requirement**

Students are expected to attend all classes, lectures, seminars and complete all research and laboratory assignments by the deadlines

specified. Supervisors must be notified if you are going to be absent from the research lab or the teaching lab.

## Knights E-mail Requirement for Dissertation

All official university student communication must be made through Knights E-mail. This requirement includes all thesis and dissertation communications, as well as documents submitted for format review. *Documents not submitted from a Knights E-mail account will be returned to the student without being reviewed.* 

## Plan of Study

A Plan of Study is a listing of course work agreed to by the student and the degree program specifying course degree requirements. A specific Plan of Study, which may vary from student to student, must be formulated jointly by the student and the appropriate committee or adviser in the program area and approved by the college. A Plan of Study form can be obtained from the graduate program office. This form should be prepared and signed by the adviser and student, then given to the graduate program office for review and filing in the student's permanent file.

The Plan of Study must comply with the student's relevant catalog. Plans of Study for students seeking a doctoral degree should be on file with the College of Graduate Studies by the end of the third major term of enrollment (based on full-time enrollment) and must be on file prior to the change to candidacy status. For doctoral students, the Plan of Study (for a 72-hour program) consists of:

- 27 hours of formal course work, that excludes independent study and research hours
- 15 hours of dissertation (IDS 7980)
- 30 remaining hours that are up to the discretion of the program and the adviser and student and may include independent study, research hours, clinical experiences, or other formal course work.

## 6000 Level Courses in a Program of Study

Doctoral students must have a minimum of 36 credit hours (including courses taken in a master's program) of 6000-level and 7000-level courses, which are designed, respectively, for graduate students and doctoral students only. For students with waived hours from an earned master's, this amount is at least one-half of the program hours remaining

after the waived hours are applied.

#### Grades

Every student will be evaluated after each semester. Any student who receives a grade below "B" in either BSC 6432 or BSC 6433 will be considered failing to pass the cumulative exam and will be dismissed from the program immediately.

Per the UCF Graduate studies policy, the program will allow a maximum of two "C" grades in <u>elective</u> courses (not BSC 6432 or BSC 6433).

GPA below 3.0 will be subjected to a one semester probation policy. If not corrected then this will result in dismissal from the program.

At any time, If the student earned a grade below "C" in any course or two consecutive "U" grades, or a GPA below 2.0, the student will be removed from the program.

## Transfer Credit Policy

Regardless of transferred credit hours into the program, all students must take a minimum of two elective courses totaling at least 6 credit hours and achieve a minimum of "B" level grade in each. Transfer of credit courses will be approved by the Program Coordinator.

#### Student Evaluations: Laboratory Performance

PhD students are required to have **annual evaluations** with the dissertation committee to evaluate progress achieved towards completion of their dissertation research. Each year, the mentor and committee members must complete the Annual Evaluation Form after the student's presentation of research. *Failure to complete annual evaluations will impede the student's graduation*. A meeting with the dissertation committee must also be held the semester prior to graduation.

In the academic year immediately after passing candidiacy, the annual meeting is not required <u>if the candidiacy topic was on topic related to the dissertation proposal.</u>

## Laboratory Performance

If laboratory performance is considered to be unsatisfactory by the committee, the coordinator will give a written statement advising the student of a probation period during which specific improvements are expected. The time limit for improvement is one semester. If the committee finds lack of satisfactory improvement the student will be expelled from the PhD Program.

Under extenuating circumstances, the student may file a petition to the graduate committee to stay in the program. If the graduate committee approves the student's request, the student may seek transfer to another lab.

#### Graduate Program Leave Policy

All Graduate Students are supported by GTA or GRA and therefore, are UCF employees.

Only UCF official holidays, as published in each year, are recognized as paid holidays.

It is mandatory that all graduate students in BSBS who are supported by GTA or GRA must receive prior program approval for any leave of absence. Student must discuss the leave with their mentor and/or GTA supervisor, then complete the graduate leave of absence form, and receive program approval before going on leave. Failure to comply with the program leave of absence policy may lead to termination of employment/tuition waiver and/or dismissal from the program.

The form must be approved two weeks in advance of requested date(s).

## **Teaching Requirement**

Students must serve as teaching assistants (GTAs) for a minimum of two semesters during the first two years of the Program and before the candidacy exam. The Graduate committee may exempt from GTA anybody who has done relevant teaching, for at least two semesters, in a graduate program.

## Graduate Teaching Assistants (GTA)

GTAs may be assigned as instructors of record for undergraduate courses, as assistants to the faculty in their teaching responsibilities or in other roles directly related to credit-earning formal course instruction, or as tutors for students on specific course-related material or general skills. GTAs assisting members of the faculty may have responsibilities that include assisting in laboratory courses, grading, and preparation of course materials, or performing clerical tasks associated with course instruction.

## Versant English Test Requirement for GTA

Beginning with Spring 2018, UF's English language Institute will be offering the Versant English Test in place of the SPEAK Test. Students who are non-native speakers of English and do not have a degree from a U.S. institution must pass the Enlgish Speaking test before they will be permitted to teach as Graduate Teaching Associates (position code 9183) or Graduate Teaching Assistants (position code 9184). The SPEAK test is not required for students who will be appointed as a Graduate Teaching Grader (position code 9187). The English Speaking test is administered by the English language Institute and takes about 20 minutes.

## **GTA Expectations**

- Professionalism with time, attire and interaction with students and staff.
- GTAs are evaluated after each semester (GTA is a privilege); poor performance will result in loss of future assistantship.
- GTAs can be terminated during or at the end of the semester if warranted.
- Communication is very important.
- Teaching labs rely on your assistance.
- Where appropriate, proper PPE (Personal Protective Equipment) must be worn in labs.
- Proper training on equipment is necessary before use.

## **Overall Expectations:**

Expectations from students in each lab may vary from one mentor to another. However, all labs/mentors in the program expect the students to be at a high level of professionalism. This includes attending classes, fulfilling GTA assignments, working hard on research projects, attending seminars and meetings, presenting data in meetings, and demonstrating collegiality.

The program will pursue to the fullest of our policy any complain of unacceptable behavior or misconduct. This may end in placing students on probation, termination of GTA/GRA financial support, or dismissal from the program.

## <u>Academic Integrity Training must be completed to advance to</u> <u>Candidacy.</u>

## **Ethics/Responsible Conduct of Research Workshops**

The College of Graduate Studies and the Office of Research and Commercialization offer a series of workshops to enable doctoral students to fulfill the four-workshop requirement in ethics and responsible conduct of research. Students must take at least two CORE workshops and at least two other CORE or ELECTIVE workshops, for a total of four workshops. CORE and ELECTIVE workshops are offered every Fall and Spring semester. There will be a limited offering of sessions during the Summer semesters. The ethics/responsible conduct of research (RCR) workshops are provided at no cost and are open to all UCF graduate students and postdoctoral associates. Priority is given to doctoral students who are required to complete these workshops prior to advancement to candidacy. All ethics/RCR workshop requirements must be completed prior to a doctoral student's advancement to candidacy. https://www.students.graduate.ucf.edu/Ethics Workshops/

**IMPORTANT NOTE:** If a Ph.D. student fails to successfully complete the candidacy prior to the completion of the summer semester in their 2nd year, then their stipend will automatically be reduced to \$17,000 per year until satisfactory completion of the candidacy exam occurs.

## College Awarding the PhD Degree in Biomedical Sciences

PhD students in the interdisciplinary PhD Biomedical Sciences Program will graduate with the Doctor of Philosophy in Biomedical Sciences Degree, under the <u>College</u> of your faculty advisor.

## FIRST YEAR

Fall semester:

- Core Course: Structure and Function of Biomedical Sciences (BSC 6432/) 5 cr
- Graduate Teaching Assignment
- Seminar Course (IDS 7690) 1 cr
- Laboratory Rotations (IDS 7692L) 3 cr
- Selection of an Advisor

Spring Semester:

- Core Course: Structure and Function of Biomedical Sciences (BSC 6433) 5 cr
- Seminar Course (IDS 7690) 1 cr
- Laboratory Rotations (IDS 7692L) 1 cr
- Experimental Design & Analysis for Biomedical Science (IDS6694) 2 cr
- Graduate Teaching Assignment
- Selection of an Advisor

Summer semester:

• Elective 3 cr

• Doctoral Research (IDS 7919)

## SECOND YEAR

Fall semester:

- Practice of Biomedical Science (BSC6431) 3 cr
- Elective/ Lab Method\* (BSC 6407C) 3 cr
- Seminar Core Course (IDS 7690 Frontiers in Biomedical Sciences) 1 cr
- Doctoral Research (IDS 7919) 2 cr

Spring semester:

- Electives 6 cr
- Seminar Core Course (IDS 7690 Frontiers in Biomedical Sciences) 1 cr
- Doctoral Research (IDS 7919) 2 cr
- Candidacy preparation

Summer semester:

- Doctoral research 6c
- If MOW selected then 3 cr elective and 3 cr capstone

# <u>Procedures and Guidelines for PhD Program "Masters Along the Way"</u>

Entering PhD students will have the option to receive a non-thesis Masters of Science (MS) degree that will be awarded after achieving candidacy.

Requirements for the MS degree must be completed in addition to the requirements of the PhD program.

The student must meet with the program office prior to entering candidacy for the PhD (preferably in the first year of the PhD program) to develop a program of study (POS) for the-non-thesis MS Program.

All interested students must formulate a POS *as early as possible* in order to choose those electives that will provide a foundation for their doctoral studies and fulfill the MS degree requirements.

The POS for the MS "Along the Way" will be developed for each interested student using the following guidelines:

a. Lab Methods in Molecular Biology (BSC 6407C)

- b. In both the Biomed focus (6 ch) and the Microbiology focus (6 ch), appropriate 5000-6000 level formal courses which the students have taken as a part of their Ph.D. may be included in the POS and must be approved by the program coordinator.
- c. No Independent Study or independent research or doctoral research courses will be allowed for this degree.

<u>MS "Along The Way" Curriculum</u> - Requires a minimum of 33 credit hours of courses

Required Courses—18 Credit Hours

- BSC 6431 Practice of Biomedical Sciences (3 credit hours)
- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hrs.)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- Seminar IDS 7690 Seminar (1 credit hour, to be repeated by all students)

## Elective Courses—12 Credit Hours

Nonthesis MS students take 12 credit hours of electives with 6 credit hours from the Biomedical Specialization and 6 credit hours from the Microbiology Specialization.

**Biomedical Specialization** 

- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes, and Metabolism (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)

- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- Others: If approved by Graduate Committee

## Microbiology Specialization

- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 5235 Molecular Immunology
- Others: If approved by Graduate Committee

## MCB 6026 Capstone Course (3 credit hours minimum)

## Graduate Program Registration

Graduate students will work with the the Program Graduate Service Office to register for courses each semester. Students must email <u>BSBSGradAppts@ucf.edu</u> to schedule an appointment or email <u>BSBSGradRegistraton@ucf.edu</u> for registration assistance.

## Graduate Assistantship & Tuition Waivers

New graduate students will receive information on scholarships, fellowship and stipend payments during the Graduate Assistantship & Financial Award meeting scheduled during Orientation Week. Graduate students must contact **Greg Norris** (<u>Greg.Norris@ucf.edu</u>) or **Allison Connally** (<u>Allison.Connally@ucf.edu</u>) for graduate funding questions. Exceptionally qualified students may be eligible for university enhancement awards.

<u>Tuition and Fee Payment</u> <u>http://www.studentaccounts.ucf.edu/TuitionFees.cfm</u>.

Tuition support pays matriculation and nonresident fees (charges for course hours) and does not include local fees such as health fees, athletic fees, etc. All funded students must complete their hiring paperwork to receive their biweekly paycheck. Stipend payments will occur every other Friday in the form of direct deposit. Students receiving scholarship/fellowships will receive a separate payment that will be deposited directly into your account. You should expect to pay about \$100 per credit hour in fees.

# Please Note: Tuition Payments will be finalized after ADD/DROP of each semester you are in the program.

#### **Tuition Coverage**

Full - The tuition coverage portion of this offer will pay for 100% of the tuition charges during the terms of your assistantship. This will cover full-time enrollment in required course work taken as part of your degree program. Please note that tuition covers the "Tuition" and "Out-of-State Fee" items in the Fee Schedule and not the local fees. http://www.studentaccounts.ucf.edu/TuitionFees.cfm

#### Office of Student Financial Assistance

The mission of the Office of Student Financial Assistance is to provide UCF students and the University Community comprehensive quality service by offering options for financial assistance and efficient delivery of aid. Financial aid counseling is available by appointment. Due to confidentiality, counseling by phone and email is limited. Student Financial Assistance is dedicated to the attainment of UCF's mission and goals. For more detailed information, visit the website at: <a href="http://finaid.ucf.edu/">http://finaid.ucf.edu/</a> / <a href="http:/

## **Cashier's Office**

The Cashier's Office is responsible for the collection of all student payments that are due to the university. Registration is not complete until all fees are paid in full on or before the published deadline (deadlines available on the Academic Calendar). Credit card payment may be made online through myUCF E-Pay (my.ucf.edu), or at any Cashier's Office. For Fee Payment Policies, refer to the Student Accounts Information - www.registrar.sdes.ucf.edu/weg/student\_accounts\_information/deferment s. To contact the Cashier's Office, visit <u>http://www.fa.ucf.edu/</u>.

## **Specified Deadline for Third Year and beyond PhD Students:**

Nov 30: Deadline for completing annual dissertation committee review

#### BSBS SPRING GRADUATE RESEARCH SYMPOSIUM



#### Seminar Presentation

PhD students will give a program-wide seminar presentation of their own research during either their third or fourth year. This will typically be done during the Graduate Research Symposium held in the Spring Semester each year. Critical Feedback will be given in written form on presentation skills and overall quality of data and presentation.

#### Policy Regarding Research Materials and Dissertation Approval

Materials used to conduct research in the University of Central Florida laboratories and the intellectual property generated from such research belongs to the University of Central Florida. The major advisor is the responsible person for keeping these materials for the University. Removal of such materials from the university premises is prohibited. The dissertation will be approved as satisfactory for the PhD degree only upon certification by the dissertation advisor that the student has returned to his/her advisor the research notebooks containing proper account of the data and procedures, all research materials (reagents, mutants clones, antibodies, etc.) generated or used during the conduct of research, and primary data such as films, electronic account in the form of discs, etc. The decision on when the dissertation is to be released (immediately, held six or twelve months, etc.) to the public will be made by the major advisor along with the student to prevent any premature disclosure of data or methods that are considered to be protected as intellectual property by the University. UCF Graduate Thesis and Dissertation (EDT): http://www.students.graduate.ucf.edu/ETD/

#### **University Dissertation Requirements**

http://www.students.graduate.ucf.edu/ETD/

The College of Graduate Studies <u>Thesis and Dissertation</u> page contains information on the university's requirements for dissertation formatting, format review, defenses, final submission, and more. A step-by-step completion guide is also available at <u>Completing Your Thesis or</u> <u>Dissertation</u>.

All university deadlines are listed in the <u>Academic Calendar</u>. Please check with the program office for additional deadlines.

Students must format their dissertation according to the standards outlined at <u>Formatting the ED</u>. Formatting questions or issues can be submitted to the Format Help page in the <u>Thesis and Dissertation</u> <u>Services</u> site. Format reviews and final submission must be completed in the <u>Thesis and Dissertation Services</u> site. The Dissertation Approval Form is also available in the Thesis and Dissertation Services site.

The College of Graduate Studies offers several thesis and dissertation <u>Workshops</u> each term. Students are highly encouraged to attend these workshops early in the dissertation process to fully understand the above policies and procedures.

The College of Graduate Studies thesis and dissertation office is best reached by email at <u>editor@ucf.edu</u>.

## Program Forms

The following PhD Program forms are now located on our website https://med.ucf.edu/biomed/graduate-programs/forms/

- PhD Annual Review
- PhD Candidacy Exam Oral Presentation
- PhD Dissertation Committee Selection
- PhD Registration Form
- PhD First Committee Meeting
- PhD Pre-Defense Committee Meeting
- MS Along the Way Program of Study
- Graduate Program Leave Request Form

#### INTENT TO GRADUATE



#### **Graduation** Application

You must submit your Online <u>Intent to Graduate</u> on your myUCF portal in the semester you are approved to graduate. Log onto <u>https://my.ucf.edu/</u> and follow this navigation: Student Self Service> Student Center> other academics (drop down menu) > Intent to Graduate> Apply.

#### **Room Scheduling / IT Scheduling**

Once you've confirmed possible defense date(s) and time(s) with your Committee, you must send an email request to the Program Office (<u>BSBSGradinfo@ucf.edu</u>) to reserve the conference rooms and IT Department reservations. <u>Please indicate which campus your defense will be held "live"</u>. The Program Office will then notify all parties of the confirmed defense date/time. All Dissertation Defense must be simulcast.

#### **Announcement Distribution**

You are required to email your Abstract to the Program Office at least 2 weeks prior to your defense for announcement distribution and posting. Include the following with your abstract: Dissertation title, name of your Committee members and your publication Information. Please follow the College of Graduate Studies new abstract guidelines.

#### **Graduate Student Dissertation Information**

All thesis and dissertation students must visit the Graduate Students Thesis and Dissertation (ETD) website at to access the most update to date thesis and dissertation information, including deadlines, step-by-step instructions for manuscript preparation and submission, and the current

## Thesis and Dissertation Manual.

http://www.students.graduate.ucf.edu/ETD/

Note: Pass format review by the College of Graduate Studies Thesis and Dissertation office in order to receive permission to upload your final document by the final deadline. Most students require 2-3 submissions for format review before their dissertation PDF passes the format review requirements.

The following requirements must be met by dissertation students in their final term:

- Submit a properly formatted file for initial format review by the format review deadline
- Submit the Thesis and Dissertation Release Option form well before the defense
- Defend by the defense deadline
- Receive format approval (if not granted upon initial review)
- Submit signed approval form by final submission deadline
- Submit final dissertation document by final submission deadline

## **Review of Dissertations for Original Work through iThenticate**

Have your committee chair complete the <u>Review for Original Work</u> (through iThenticate.com). The university requires all students submitting a thesis or dissertation as part of their graduate degree requirements to first submit their electronic documents through iThenticate for advisement purposes and for review of originality.

The dissertation chair is responsible for scheduling this submission to iThenticate and for reviewing the results from iThenticate with the student's advisory committee. The dissertation committee uses the results appropriately to assist the student in the preparation of their thesis or dissertation.

The review for original work must be completed prior to the committee signing the Thesis Approval Form or Dissertation Approval Form.

\*Upload your final approved dissertation to the <u>Thesis and Dissertation</u> <u>Services</u> site.

## **Dissertation Approval Form**

Important: You will need to prepare your defense Approval Form. The Approval Form is available in the Thesis and Dissertation Services site at <a href="http://ww2.graduate.ucf.edu/ETD\_Student\_Services/">http://ww2.graduate.ucf.edu/ETD\_Student\_Services/</a>.

Dissertation Release Option form at myUCF > Student Center > Graduate Students > Choose Graduate Student forms.

The Defense Approval Form will not be accepted by the College of Graduate Studies if the release option is not present.

Upon completion of the TD Release Option form, the title, defense date, and release option will be processed by the Graduate Office and updated in the Approval Form.

Students should also ensure that their committee information is indicated correctly on the Approval Form before printing. Please contact Program Office if the committee information is not listed correctly. You can review the Defense Approval Form page in the Thesis and Dissertation Services site then print the form for your defense. You are required to obtain your Defense Approval form at least two week before your defense.

Please Note: Processing can take a day or two, so please complete the TD Release Option form well before you defend. The Defense Approval Form will not be accepted by the College of Graduate Studies if the release option is not present. Graduate Students must contact Nathalia Bauer (editor@ucf.edu / 407-823-2739) for assistance with this process.

## Day of Defense

Please arrive early to prepare for your presentation. Bring a copy of your Approval Form to your defense for Committee members/Program Coordinator signatures.

After your defense bring your approval form to the Program Office. The Program Office will obtain signatures from College of Medicine Dean, Program Director and the Dean of the College of Graduate Studies.

Your GPS (audit) will be updated once all signatures have been obtained.

## <u>PhD Diploma</u>

PhD students in the interdisciplinary PhD Biomedical Sciences Program will graduate with the Doctor of Philosophy in Biomedical Sciences Degree, under the <u>College</u> of your faculty advisor.

You will receive your diploma at Commencement or it will be mailed approximately 6 to 10 weeks after the commencement ceremony to the address indicated on your Intent to Graduate form. Students who have changed their address should contact the College of Graduate Studies at <u>graddegr@ucf.edu</u>. Questions can be directed to the College of Graduate Studies at 407-823-4132.

Diplomas cannot be released if you have a nonacademic hold. It is your responsibility to resolve holds as quickly as possible.

<u>Student Account Services</u> and the <u>Registrar's Office</u> will notify students of any outstanding financial obligations prior to the Commencement ceremony. All financial obligations must be met in order to receive a diploma and official transcripts. Transcripts that reflect the degree earned will be available approximately 4-6 weeks after the ceremony and requests may be made through the <u>Registrar's Office</u>.

#### **Graduate Student Contact Information**

You are required to update your personal contact information regularly with the Program administrator: a local mailing address, a local telephone number, and an e-mail address.

#### **Commencement Ceremony Information**

Please visit the College of Graduate Studies website for Commencement information <u>http://www.students.graduate.ucf.edu/commencement/</u>. Please inform your faculty advisor of your Graduation Ceremony date and time so they can attend this event with you. Also notify the Program Office if you will be attending.

## **GENERAL GRADUATE POLICIES**

#### **Full Time Enrollment Status**

A full-time degree-seeking graduate student must take at least 9 credit hours in the fall and spring semesters. During the summer term, full-time is 6 credit hours and half-time is 3 credit hours.

For doctoral students who have passed the candidacy exam and are enrolled only for doctoral dissertation (IDS 7980) hours, full-time is 3 hours per semester until graduation. Such students must continue to enroll in at least three dissertation hours each semester (including summers, without skipping a semester) until they successfully complete the dissertation and graduate. Students who wish to enroll in part-time hours should consult their adviser. There are no other exceptions. This is very important for international students who may not meet compliance standards of Homeland Security if they drop a class and become part-time as a consequence. International students should see the International Services Center if they are contemplating dropping a class.

Students receiving fellowships or assistantships should consult with the Graduate College's Financial Assistance Office at gradfellowship@ucf.edu or gradassistantship@ucf.edu before considering dropping a course, if they will become part-time as a consequence. Patent and Invention Policy

UCF has a Patent and Invention Policy that applies to all graduate students. Thesis and dissertation students should discuss the patent process with their thesis or dissertation committee chair and also visit the <u>Office of Technology Transfer</u> site for more information on applying for a patent. The dissemination of a thesis or dissertation can be restricted for up to six months in order to allow for adequate time to apply for a patent and/or resolve propriety issues (see also Dissemination of Theses and Dissertations policy).

## **Review of Academic Performance**

The primary responsibility for monitoring academic performance standards rests with the degree or certificate program. However, the academic college and the UCF College of Graduate Studies will monitor a student's progress and may dismiss any student if performance standards or academic progress as specified by the program, college or university are not maintained. Satisfactory academic performance in a program includes maintaining at least a 3.0 graduate status GPA (defined below) in all graduate work taken since admission into the program. Satisfactory performance also involves maintaining the standards of academic progress and professional integrity expected in a particular discipline or program. Failure to maintain these standards may result in dismissal of the student from the program.

## Graduate Status - GPA

A graduate status GPA will be calculated based on the graduate courses taken at UCF since admission into each degree or certificate program. The graduate status GPA is used to monitor the student's progress in the program. The university requires that students must maintain a graduate status GPA of at least 3.0 or higher in order to maintain regular graduate

student status, receive financial assistance, and qualify for graduation. This GPA requirement cannot be waived. In addition, a graduate status GPA will be calculated for non-degree students based on graduate courses taken at UCF while in non-degree status.

Please note that the graduate status GPA does not carry forward from one program to another or from non-degree status into a degree or certificate program.

#### **Graduate Studies GPS**

The Graduate Studies GPS is an advisement tool you can use to plan your academic career, check your progress and assist you in registering in upcoming semesters. To access your report, navigate to the student portal at <u>my.ucf.edu</u> enter your PID, then go down to Main Menu>Self Service>Student Center. At the drop down box, select "Graduate Plan of Study", then hit the right-facing arrow to process your report.

#### **International Advising**

International Affairs and Global Strategies (IAGS) serves as a source of information, advocacy, and support to prospective, new and current international students and scholars at the University of Central Florida. IAGS provides students and scholars with immigration advising and assistance in adjusting to new academic and cultural environments.

UCF Global Website - <u>http://global.ucf.edu/</u> Address: 4356 Scorpius St, Orlando, FL 32816 Building GB 139 Orlando, FL 32816-0130 Phone: (407)823-2337 | Fax: (407)823-2526

#### **BIOMEDICAL SCIENCES GRADUATE STUDENT ASSOCIATION**



BSGSA is a registered student organization at the University of Central Florida that serves as the official advocate and representative for graduate students in the Biomedical Sciences program. We provide a relaxing environment where graduate students can have fun while discussing relevant issues that directly impact our program. BSGSA also helps welcome incoming students and organizes meetings aimed to help students overcome the major milestones of the Masters and PhD programs. Recently BSGSA has been working closely with the Graduate Student Association and GSA Advisory Board to affect policy changes relating to graduate students as a whole.

#### Parent Organization: Office of Student Involvement

#### The goals of BSGSA include:

1. To provide a forum for discussion of issues relevant to graduate students within the Burnett School of Biomedical Science and others in the university community;

2. To organize, promote and conduct activities beneficial to Biomedical Sciences graduate students and enhance their graduate education at the University of Central Florida.

Contact: <u>BSBSGSA@gmail.com</u>

## **COLLEGE OF GRADUATE RESEARCH SYMPOSIUM**





The Graduate Research Forum features poster displays representing UCF's diverse colleges and disciplines. The Research Forum is an opportunity for graduate students to showcase their research and creative projects and to receive valuable feedback from faculty judges.



#### **PhD Program Faculty Members**

Salvador Almagro-Moreno, PhD **Deborah Altomare, PhD** Claudia Andl, PhD Jack Ballantyne, PhD Shazia Beg, PhD Ella Bossy-Wetzel, PhD Elizabeth Brisbois, PhD Jonathan Caranto, PhD Analia Castiglioni, PhD Karl Chai, PhD Debopam Chakrabarti, PhD Ratna Chakrabarti, PhD Bo Chen. PhD Zixi (Jack) Cheng, PhD Karin Chumbimuni-Torres, PhD Melanie Coathup, PhD Alexander Cole, PhD Kaitlyn Crawford, PhD Victor Davidson, PhD Nyla Dil, PhD Steven Ebert, PhD Cristina Fernandez-Valle, PhD Stephen Florczyk, PhD Anna Forsman, PhD Jane Gibson, PhD **Timothy Gilbertson, PhD** Xiufang Guo, PhD James Hickman, PhD **Robert Hines, PhD Oun Huo, PhD** Mollie Jewett, PhD **Travis Jewett, PhD** Hveran Kang, PhD Annette Khaled, PhD Brian Kim, PhD Yoon-Seong Kim, PhD Stephen King, PhD **Dmitry Kolpashchikov, PhD** Stephen Lambert, PhD Woo Hyoung Lee, PhD Shawn Li, PhD Hansen Mansy, PhD Michal Masternak, PhD Kai McKinstry, PhD

**Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** Chemistry **Internal Medicine at UCF Health Burnett School of Biomedical Sciences Materials Science & Engineering** Chemistry Medical Education **Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Physics Burnett School of Biomedical Sciences** Chemistry **Internal Medicine Burnett School of Biomedical Sciences** Materials Science & Engineering **Burnett School of Biomedical Sciences Medical Education Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** Engineering Biology Medical Education **Burnett School of Biomedical Sciences** Nanoscience Nanoscience **Internal Medicine** Nanoscience **Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** Nanoscience **Burnett School of Biomedical Sciences Electrical and Computer Engineering Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** Chemistry **Medical Education Engineering & Computer Science Burnett School of Biomedical Sciences** Mechanical and Aerospace Engineering Burnett School of Biomedical Sciences **Burnett School of Biomedical Sciences** 

Sean Moore, PhD Saleh Naser, PhD **Griffith Parks**, PhD Sampath Parthasarathy, PhD **Otto Phanstiel, PhD** Kamal Pourmoghadam, PhD Kyle Rohde, PhD **Edward Ross, PhD** Herve Roy, PhD Suha Saleh, PhD Swadeshmukul Santra, PhD William Self. PhD Shadab Siddiqi, PhD **Dinender Singla, PhD** Julia Soulakova, PhD Amber Southwell, PhD **Robert Steward, PhD** Tara Strutt, PhD Kiminobu Sugaya, PhD Lindsay Taliaferro, PhD Suren Tatulian, PhD Ken Teter, PhD Justine Tigno-Aranjuez, PhD Laurence von Kalm, PhD Bradley Willenberg, PhD Xugang Xia, PhD Shibu Yooseph, PhD Yu Yuan, PhD Antonis Zervos, PhD Shaojie Zhang, PhD Jihe Zhao, PhD Hongxia Zhou, PhD

**Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Medical Education** Arnold Palmer **Burnett School of Biomedical Sciences Internal Medicine Burnett School of Biomedical Sciences** СОНРА Nanoscience Burnett School of Biomedical Sciences **Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** Engineering **Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** Internal Medicine Physics **Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** Biology **Internal Medicine Burnett School of Biomedical Sciences Computer Science** Chemistry **Burnett School of Biomedical Sciences Computer Science Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences** 

Participating Associate Program Faculty

Limei Chen, PhD Amy Cole, PhD Alicja Copik, PhD Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences Burnett School of Biomedical Sciences

Participating Courtesy Faculty Kenneth Alexander, MD William Decampli, PhD Dennis Drehner, DO Terri Finkel, MD Muthu Periasamy, PhD Peter Potrebko, PhD Steven Smith, MD William Warren, PhD

Nemours Orlando Health Nemours Nemours Burnham Institute Florida Hospital Florida Hospital Sanofi- VaxDesign

#### PHD PROGRAM COMMITTEES

Graduate Committee

Mission: Oversight of the Ph.D. Program.

Meets: As needed

Admissions and Recruitment Committee

Purpose: Reviews student applications and makes recommendations for admission to the Ph.D. Program. Committee is also responsible for recruitment of new students, which may include (but not limited to) making sure that the most current and pertinent information is available and accessible via our website, and production of pamphlets, posters, and/or newsletters.

Meets: Twice per year – Once in early Fall (Recruitment) and once in early Spring (Admissions). Can meet more often as needed.

#### Curriculum Committee

Purpose: The committee is responsible for reviewing core graduate course and other required and elective courses for the Ph.D. Program. The committee is also responsible for updating those sections of the Ph.D. Program Handbook pertaining to the curriculum (coursework) and ensuring that these changes are consistent with information on our website and in the Graduate Catalog.

Meets: Twice per year – Once in Fall and again at the end of Spring Semester. Can meet more often as needed.

#### Graduate Exam Committee

Purpose: The committee will meet to prepare and grade cumulative exam questions and coordinate exam schedules.

Meets: Twice per year – Once in early Fall (Aug) for exam preparation and again in Spring to grade exams. Committee can meet more often as needed.

#### Student Affairs Committee

Purpose: The committee will meet to discuss issues pertaining to Ph.D. students, and will serve as a liaison committee between the Ph.D. Faculty and BMS Graduate Student Organization. This committee will also serve as the planning committee for Orientation of incoming Graduate Students.

Meets: At least once per year.

#### Graduate Symposium Committee

Purpose: The committee will organize the Graduate Research Symposium in the Spring Semester.

Meets: At least once per year.

## Criteria for faculty membership in the Ph.D. program:

1. Have laboratory space appropriate for their research and for training.

2. Have an active current publication record.

3. Have current grant support or are in the process of applying for funds (Junior Faculty).

4. Have a tenure-earning position.

5. Research should be in the field of Biomedical or Biomolecular Science.

Membership in the Ph.D. program will be reviewed every five years.

#### Criteria for associate faculty membership in the Ph.D. program:

- 1. Hold a faculty position at UCF
- 2. Interested in Training in Biomedical Sciences
- 3. Contribute in the enrichment of the Ph.D. program

Associate membership in the Ph.D. program will be reviewed every five years.

Qualified individuals who are not UCF faculty may wish to be considered for courtesy faculty\* appointment in one of the relevant units in UCF.

No more than two courtesy faculty members may serve on a given student's Ph.D. dissertation committee.

Courtesy faculty may not serve as chairs but may serve as co-chairs together with a UCF <u>\*Rules governing Courtesy Faculty participation in the Biomedical Sciences Ph.D. Program:</u>

An external faculty (non-UCF) may participate in the UCF Biomedical Sciences Ph.D. Program through a courtesy faculty appointment if they meet the following criteria: (1) Meet all standards required of UCF Ph.D. Program Faculty, (2) Supply a CV to be reviewed by BMS Ph.D. Program faculty, (3) Give a seminar on their work to UCF BMS Ph.D. faculty, and (4) Must receive a majority of votes from current UCF BMS Ph.D. faculty in favor of offering a courtesy faculty appointment in the BMS Ph.D. Program.

All faculty receiving courtesy appointments in our Ph.D. Program will be expected to fully participate in the program, including teaching, committee service, supplying cumulative exam questions, etc.

If a non-UCF courtesy faculty member agrees to serve as the Dissertation

Advisor for a Ph.D. student and the student agrees, then the courtesy faculty mentor or his/her institution will become financially responsible for that student for the duration of their Ph.D. studies. This includes both stipend and tuition waivers for the student. Stipends must be equivalent to but not exceed current UCF stipends for our program (presently = \$24,000 per year).

## **BSBS FACILITIES**

Faculty and staff in the School are located in four areas: The Biomedical Science and Health & Public Affairs Building on Main Campus; the Biomolecular Research Annex in Research Park; and the Burnett Biomedical Sciences facility, adjacent to the College of Medicine at the Lake Nona Medical City Campus.



Biomedical Science Building, Main Campus



Burnett Biomedical Sciences Building, Health Sciences Campus



Biomedical Research Annex,

Research Park



Health & Public Affairs II Building, Main Campus

#### Health Sciences Campus Shuttle

UCF Shuttles travel between UCF's main campus and the Health Sciences Campus at Lake Nona Monday through Friday. For the latest schedule updates please visit the Parking Services website at <u>http://parking.ucf.edu/shuttles/health-sciences-schedule/</u>

## THE UCF CREED

Integrity, scholarship, community, creativity and excellence are the core values that guide our conduct, performance, and decisions. These values comprise the guiding principles that direct the actions of the university, and its students.

## Integrity

I will practice and defend academic and personal honesty.

## Scholarship

I will cherish and honor learning as a fundamental purpose of my membership in the UCF community.

## Community

I will promote an open and supportive campus environment by respecting the rights and contributions of every individual.

## Creativity

I will use my talents to enrich the human experience.

## Excellence

I will strive toward the highest standards of performance in any endeavor I undertake



The Biomedical PhD program reserves the right to make any changes or amendments to the Program/Handbook within the students' period of study upon majority approval of the program faculty, director and coordinators.