



UNIVERSITY OF CENTRAL FLORIDA

# **MS Biotechnology Graduate Program Handbook 2020-2021**

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***The MS Biotechnology Thesis program reserves the right to make any changes or amendments to the Program/Handbook information, rules, or policies within the students' period of study upon majority approval of the program faculty, director and coordinator.***

**Welcome to the Burnett School of Biomedical Sciences, Masters of Biotechnology  
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.

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## **Program Coordinator Introduction & Welcome**

Welcome to the Burnett School of Biomedical Sciences Masters of Biotechnology Program. This program is designed to give you broad knowledge and training in the scientific and practical aspects of biotechnology. It involves innovative, hands-on and multidisciplinary learning approaches to give you the necessary education and training in scientific aspects of biotechnology. The courses and research training required in this program are also designed to develop independent thinking, team work and communication skills, which are highly desirable in the biotechnology industry.

As a new master's 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.

The Biomedical Sciences Masters of Biotechnology Program will prepare you for a career in academic research, higher education or biotechnology. Course work will provide a basic grounding in relevant topics, while hands-on research experience will be the cornerstone of your masters training. Expectations are for you to go beyond the assigned classroom readings and use your curiosity to explore new research trends, building a knowledgebase 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.

In the first year of the program, you will choose an advisor and form a thesis committee that will guide your studies and prepare you to conduct your own research. Careful selection of a supportive advisor and appropriate thesis committee members cannot be overstated. The process of achieving a masters (Thesis) degree will demand dedication and effort that go far beyond your undergraduate experience. The expectations are high but also are the achievements and rewards.

The program director, program coordinators, faculty and 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 have already made the decision to enter a graduate degree program. This decision commits you to uphold 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 are here to help.

We wish you all the best of success during your graduate experience at UCF!



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Editor-in-Chief  
World Journal of Gastroenterology

### **FACEBOOK**

**Like us on Facebook!**

<https://www.facebook.com/BurnettSchoolGraduatePrograms/>

# MS Biotechnology

Together, the [Graduate Student Handbook](#) and your graduate program handbook should serve as your main guide throughout your graduate career. The Graduate Student Handbook includes university information, policies, requirements and guidance for all graduate students. Your program handbook describes the details about graduate study and requirements in your specific program. While both of these handbooks are wonderful resources, know that you are always welcome to talk with faculty and staff in your program and in the Graduate College.

The central activities and missions of a university rest upon the fundamental assumption that all members of the university community conduct themselves in accordance with a strict adherence to academic and scholarly integrity. As a graduate student and member of the university community, you are expected to display the highest standards of academic and personal integrity.

Here are some resources to help you better understand your responsibilities:

- [Academic Honesty](#)
- [Academic Integrity Training](#) - Open to all graduate students at no cost
- [Plagiarism](#)

## Introduction

### Mission Statement and Overview

**Mission:** The Biomedical Sciences graduate 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 MS Biotechnology program enriched with graduate faculty with diverse investigative biomedical research interest and highly qualified students who are pursuing top education and cutting edge discoveries <https://med.ucf.edu/biomed/graduate-programs/ms-biotechnology/>

The Graduate Faculty includes over 100 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 <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 MS Biotechnology 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.

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.

### **MS Biotechnology Degree**

MS Biotechnology students will graduate with a Master's of Science in Biotechnology degree.

### **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.

### **Student Accessibility Services**

Student Accessibility Services (SAS) views disabilities as an integral part of the rich diversity at the University of Central Florida. To that end, we work collaboratively with students, faculty, and staff to create an inclusive educational environment for students. BSBS students with disabilities must contact the professor at the beginning/or prior to the semester to discuss the needed accommodations. Students who need accommodations must be registered with the Student Accessibility Services office. For more information, please contact [sas@ucf.edu](mailto:sas@ucf.edu) or (407) 823-2371.

### **UCF Golden Rule**

The Golden Rule Student Handbook is a compilation of various policies and procedures from 10 different UCF departments and was specifically created to provide the answers to many of your questions regarding University rules and regulations. This publication attempts to define your rights and responsibilities and give you a better understanding of your role as a member of the UCF community. <http://goldenrule.sdes.ucf.edu/>

### **BSBS Program Orientation**

All new graduate students are required to attend our New Graduate Student Orientation, which is held one week before Fall classes begin. Graduate students will meet with program leaders who will give an overview of the program choreography, guidelines, and expectations for the BSBS graduate program. New graduate students will also attend our Welcome Colloquium, financial/contract information session and complete all program orientation requirements including lab & safety and animal safety training.

# Research Divisions

## **Division of Cancer Biology 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/>

## **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 (*Mycobacterium tuberculosis*, non-tuberculous mycobacteria, influenza, parainfluenza, respiratory syncytial virus and asthma)
- Sexually transmitted diseases (*Chlamydia trachomatis*, human papilloma virus and Zika virus)
- Vector-borne diseases (Lyme disease and emerging vector borne viruses)
- Inflammatory diseases (Inflammatory bowel disease, peritonitis, autoimmune arthritis and hypersensitivity)

<https://med.ucf.edu/biomed/burnett-school-of-biomedical-sciences-research/divisions/immunity-and-pathogenesis/>

## **Division of Molecular Microbiology**

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, evolution of bacterial pathogens, genomic epidemiology, enteric diseases, toxins, and diagnostics. Student training and development are integral components of faculty research.

<https://med.ucf.edu/biomed/burnett-school-of-biomedical-sciences-research/divisions/molecular-microbiology/>

## **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
- Cardiovascular epidemiology and public health

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

## **Division of Neuroscience**

The mission of the Neuroscience Division is to discover cellular and molecular mechanisms that govern function of the nervous system. This knowledge is then applied to expand understanding of how neurological disorders arise and may be treated.

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

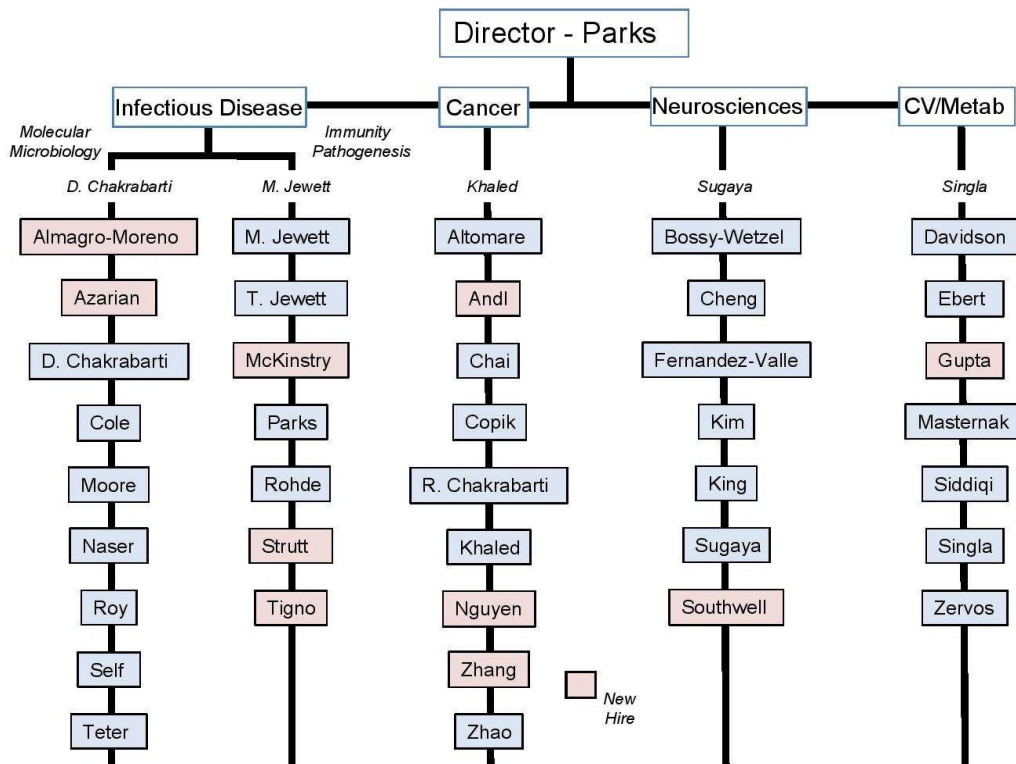
- Neurodegenerative diseases (Amyotrophic lateral sclerosis (ALS), Huntington's, Parkinson's and Alzheimer's Diseases)
- Cerebrovascular diseases (Stroke and cerebral ischemia)
- Traumatic brain injury and chronic traumatic encephalopathy (CTE) caused by concussion
- Axonal transportation dysfunctions (Charcot-Marie-Tooth disease (CMT), Perry syndrome, distal spinal and bulbar muscular atrophy)
- Sleep apnea
- Diabetes and aging-induced cardiac neuropathy
- Brain cancer such as glioblastoma multiforme (GBM) and neuroblastoma
- Optic nerve damage
- Neurofibromatosis Type 2 and schwannomatosis
- Cancers of the head and neck including oral cancer
- Regenerative medicine and stem cell therapies
- Brain machine interface
- Induced pluripotent stem (iPS) cells

Faculty collaborate with local physicians and UCF researchers (Multidisciplinary Neuroscience Alliance (MDNA, <https://med.ucf.edu/mdna/>)). They are working with Mechanical Engineering, Electrical Engineering, Computer Science, the Prosthetic Interfaces faculty cluster, Nanoscience Technology Center, Material Sciences, College of Arts and Humanity, College of Optics and Photonics, and Psychology in UCF. Collaborators also include scientists and physicians from HCA Healthcare, the Veterans Affairs Medical Center, Nemours Children's Hospital, and AdventHealth (Florida Hospital), Orlando Health and other local clinics, which enrich the clinical and translational research environment in the Neuroscience Division.

<https://med.ucf.edu/biomed/burnett-school-of-biomedical-sciences-research/divisions/neuroscience/>



# Burnett School of Biomedical Sciences



# Program Curriculum

The Master of Science in Biotechnology program in the College of Medicine will prepare students to function in the industrial biotechnology environment. This program is designed to give students broad knowledge and training in the scientific and practical aspects of biotechnology.

The Master of Science in Biotechnology program consists of a minimum of 30 semester credit hours of graduate courses offered by the Burnett School of Biomedical Sciences in the College of Medicine that includes 21 credit hours minimum of required courses, 3 credits of restricted electives, and 6 credit hours of thesis research. This program is designed to give students broad knowledge and training in the scientific and practical aspects of biotechnology.

What makes this program unique is the focus on practical training offered to graduate students through master's thesis research in molecular biotechnology to perform jobs in laboratory environment that require scientific talent.

Total credit hours required: 30 credit hours minimum beyond the bachelor's degree

## Required Courses—21 Credit Hours

### Core—19 Credit Hours Minimum

Students must take the following courses plus at least two credit hours of graduate seminar.

- MCB 5722C - Methods in Biotechnology (4 Credit Hours) or  
BSC 6407C - Laboratory Methods in Molecular Biology (3 Credit Hours) or  
MCB 6407C for students who have already taken MCB 5722C.
- BSC 6432 - Biomedical Sciences I (5 Credit Hours)
- BSC 6433 - Biomedical Sciences II (5 Credit Hours)
- BSC 6431 - Practice of Biomedical Sciences (3 Credit Hours)
- PCB 5527 - Genetic Engineering and Biotechnology (3 Credit Hours) or
- BSC 5418 - Tissue Engineering (3 Credit Hours) or
- MCB 6417C - Microbial Metabolism (3 Credit Hours) or
- PCB 5025 - Molecular and Cellular Pharmacology (3 Credit Hours)

### Graduate Seminars—2 Credit Hours

Students will participate in at least two graduate seminar courses that will prepare them for making professional presentations with an emphasis in biotechnology. The courses will involve the participation of speakers from the biotechnology industry with emphasis on an industrial perspective on biotechnology applications and product development.

- MCB 6314 - Industrial Perspectives Seminar (1 Credit Hours)  
OR
- MCB 6938 1 Credit Hour (1 semester only)

## Elective Courses—3 Credit Hours

Students will select three credit hours of restricted electives from the list below.

- BSC 5418 - Tissue Engineering (3 Credit Hours)
- BSC 5436 - Biomedical Informatics : Structure Analysis (3 Credit Hours)
- BSC 6407C - Laboratory Methods in Molecular Biology (3 Credit Hours)
- IDS 5127 - Foundation of Bio-Imaging Science (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 (VAR Credit Hours)
- MCB 6226 - Molecular Diagnostics (3 Credit Hours)
- MCB 6417C - Microbial Metabolism (3 Credit Hours)
- PCB 5527 - Genetic Engineering and Biotechnology (3 Credit Hours)
- PCB 5025 - Molecular and Cellular Pharmacology (3 Credit Hours)
- PCB 5236 - Cancer Biology (3 Credit Hours)
- PCB 5238 - Immunobiology (3 Credit Hours)
- PCB 5596 - Biomedical Informatics: Sequence Analysis (3 Credit Hours)
- PCB 5709C - Laboratory Virtual Simulations in Physiology (3 Credit Hours)
- PCB 5834C - Advanced Human Physiology (4 Credit Hours)
- PCB 5937 - Special Topics: Human Endocrinology (3 Credit Hours)
- PCB 6528 - Plant Molecular Biology (3 Credit Hours)
- PCB 6595 - Regulation of Gene Expression (3 Credit Hours)
- PCB 5838 - Cellular and Molecular Basis of Brain Functions (3 Credit Hours)
- PCB 5265 - Stem Cell Biology (3 Credit Hours)
- PCB 5815 - Molecular Aspects of Obesity, Diabetes and Metabolism (3 Credit Hours)
- ZOO 5745C - Neuroanatomical Pathways and their Neurotransmitters (4 Credit Hours)
- ZOO 5748C - Clinical Neuroanatomy (5 Credit Hours)
- GEB 5516 - Technological Entrepreneurship (3 Credit Hours)

Others if approved by the Graduate Committee

## Thesis—6 Credit Hours

Students will take a minimum of six credits of thesis research (MCB 6971) to complete their research and submit their thesis specializing in biotechnology research.

Please visit the [Graduate Catalog](#) to see the current curriculum for our program

# Suggested Timeline for Completion

## Year 1:

### **Fall Semester:**

- Core Course: Structure and Function of Biomedical Sciences (BSC 6432/) 5 cr
- Methods Course (MCB 5722C) 4 cr

**9 credit hours**

### **Spring Semester:**

- Core Course: Structure and Function of Biomedical Sciences (BSC 6432/) 5 cr
- Seminar Course (MCB 6938) 1 cr
- PCB 5527 - Genetic Engineering and Biotechnology 3 cr or
- BSC 5418 - Tissue Engineering 3 cr or
- MCB 6417C - Microbial Metabolism 3 cr or
- PCB 5025 - Molecular and Cellular Pharmacology 3 cr

**9 credit hours**

### **Summer Semester:**

- Elective Selection 3 cr or Directed Research Hours 6 cr or
- Seminar Course (MCB 6314) 1 cr and Research Hours 5 cr
- Thesis Proposal/ Comprehensive Examination

**9 credit hours**

## Year 2:

### **Fall Semester:**

- Core Course: Structure and Function of Biomedical Sciences (BSC 6431) 3cr
- Elective Selection 3cr (If not taken during the Spring)
- Seminar Course (MCB 6314) 1 cr (If not taken during the Summer)
- Thesis Research MCB 6971

**9 credit hours**

### **Key Programmatic Deadlines:**

**Selection of a Mentor:**  
**October 15**

**Selection of Thesis Advisory Committee:**  
By the beginning of Spring 1<sup>st</sup> Year

**Program of Study:**  
By the beginning of Spring 1<sup>st</sup> Year

**Thesis Proposal Defense/Comprehensive Exam:**  
By the official end of Summer C of 1<sup>st</sup> Year

**Annual Thesis Meeting:**  
By the end of Summer Semester each year

**Spring Seminar Presentation:**  
By the end of the 2<sup>nd</sup> or 3<sup>rd</sup> year

**Spring Semester:**

- Thesis Research MCB 6971 until graduation

**9 credit hours**

**Summer Semester:**

- Thesis Research MCB 6971 until graduation

**9 credit hours**

**Note:** The faculty mentor will provide guidance on graduate student course selections and timeline.

## **MS Biotechnology Laboratory Rotation**

First year students are required to complete two rotations before selecting a thesis mentor. Each rotation is 3 weeks long and both rotation should be concluded by the stated deadline.

Prior laboratory rotation, students are required to complete laboratory safety, radiation safety, biosafety, and blood borne pathogen courses.

Students should meet with faculty of their interest for further discussion about research to help them select their lab rotations. Students are required to identify their thesis mentor as soon as possible after completing the second rotation.

If no suitable lab can be found at the end of the second rotation, the student may be dismissed from the program. Program approval is required for an additional rotation, if necessary.

**Deadline to select a mentor: October 15**

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

The program may grant exemptions from laboratory rotations 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 the program to join a specific research lab.

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

### **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 complaint of unacceptable behavior or misconduct. This may end in placing students on probation, termination of GTA/GRA financial support, or dismissal from the program.**

## Thesis—6 Credit Hours

Students will take a minimum of six credits of thesis research (MCB 6971) to complete their research and submit their thesis specializing in biotechnology research. Students are expected to have an in-depth discussion with at least three faculty members before choosing a laboratory for thesis research.

The student and the Thesis Adviser/Major Professor will jointly recommend an advisory committee comprised of at least three members. The committee composition must reflect expertise relevant to the student's thesis research and must be approved by the Graduate Committee. Students switching to change the composition of the Thesis Advisory Committee must also obtain approval from the Graduate Committee.

### Thesis Mentor Selection

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.

Ideas to consider when are selecting a thesis mentor:

- 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 okay to ask many questions so you can make the right decision.
- Analyze the pros and cons of your selection.
- By **October 15**, the student must select a research advisor in the program. Your signed mentor selection form must be submitted to the Program Office.

### Thesis Advisory Committee Selection

- The student and the advisor should work together to on the composition of the Advising Committee. The Advisory Committee must meet once a year for the student's annual review meeting.
- A research thesis is required for the degree of Master of Science in Biotechnology. The student and the Thesis Adviser/Major Professor will jointly recommend a thesis advisory committee composed of at least three members (including Thesis Mentor as Chair). The committee composition must reflect expertise relevant to the student's thesis research and must be approved by the Graduate Committee/Coordinator. *Thesis Committee selection form must be submitted to the Program Office for Program approval. The Program Office will submit your approved form to the College of Graduate Studies.*
- It is required that the first Thesis Advisory Committee meeting be held no later than end of the first year in the program. In this meeting, the student is expected to show progress at expectation for course work and to present to the committee with a sound-thesis proposal.

## **Thesis Proposal Defense and Oral Comprehensive Examinations**

The thesis proposal defense and the comprehensive exam requirement should be met and passed successfully no later than the end of the summer of the first year in the program. Students will not be allowed to register for courses for the fall semester of their second year until this requirement is fulfilled.

**The thesis proposal requirement includes three sections:**

- A written 5-page (single space, without the references) thesis proposal similar to NIH style proposal format. The thesis proposal should include your introduction/hypothesis specific aims, research strategy, research approach, methods, timeline & potential outcomes (including figures & tables). This is due to the committee at least one week before committee meeting. **Check with your Mentor for example and guidance.**
- A thesis proposal defense in front of the thesis committee (40 min. seminar).
- Comprehensive Exam - **questions by the thesis committee** (during the proposal defense) that test the student understanding of the basic concepts in the field and relevant applications. The student will be evaluated on performance in all three sections. Student must pass comprehensive exam to qualify for the Masters of Science degree.

**Should the student fail, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.**

**Note: Graduate students are not eligible to register in thesis credit hours until the thesis proposal defense requirement is met.**

## **Student Evaluations: Annual Review**

**You must meet with your Thesis Committee each year to complete your annual review of progress.**

Students will be evaluated on the progress in thesis research by the thesis advisory committee for Fall and Spring semesters. Two consecutive unsatisfactory evaluations will result in reversion to non-degree status.

It is the responsibility of the student to schedule a date and time, which are amenable to all committee members. Once you have confirmed the meeting date and time with your committee, you must send an email request to the Program Office to reserve the conference rooms and IT arrangements. Please indicate which campus your meeting will be held live. The Program Office will then notify all parties of the confirmed meeting date/time. While the student and mentor are expected to host the meeting in person in either campus, other committee members have the option to attend the meeting virtually.

Annual review forms must be submitted to the Program Office. Scan forms to [BSBSGradForms@ucf.edu](mailto:BSBSGradForms@ucf.edu).

## **UCF Policy on Academic Honesty and Responsible Research Conduct**

Here are some resources to help you better understand your responsibilities:

- **Academic Honesty**  
Responsible Conduct of Research/CITI Training- All MS Biotechnology students must complete training designed to inculcate an awareness and understanding of the fundamental issues of academic integrity, and the responsible conduct of research (RCR) in a manner that is consistent with federal regulations.

This required training includes: (1) the online Collaborative Institutional Training Initiative (CITI) "Responsible Conduct of Research" training module (<https://www.research.ucf.edu/Compliance/irb.html>) in the appropriate disciplinary area; and (2) students are required to complete at least one CORE workshop and at least one other CORE or ELECTIVE workshop, for a total of two 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. <https://graduate.ucf.edu/pathways-to-success/>

**Note: You must complete this requirement by the end of Summer (1<sup>st</sup> year).**

- **Graduate Student Guide to Success**

Plagiarism Training Module- required for all new/incoming students. Note: Students will be automatically enrolled in this Webcourse. If not completed by the stated deadline a hold that prevents future registration will be placed on the student's myUCF account.

Plagiarism is the act of taking someone else's work and presenting it as your own. Any ideas, data, text, media or materials taken from another source (either written or verbal) must be fully acknowledged. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment. A student must give credit to the originality of others when the student is:

1. Directly quoting another person's actual words, whether oral or written;
2. Using another person's ideas, opinions, or theories;
3. Paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
4. Borrowing facts, statistics, or illustrative material; or
5. Offering materials assembled or collected by others in the form of projects or collections without acknowledgment.

When using the ideas, opinions, theories, formulas, graphics, or pictures of another, students must give credit to the original source at the location or place in the document where that source's material is found as well as provide bibliographic information at the end of the document. When students are verbally discussing the ideas, opinions, theories, formulas, graphics, or pictures of another, they must give credit to the original source at the time they speak about that source. In this manner, students must make clear (so there is no doubt) within their written or verbal materials, which parts are gained from other sources, and which are their own original ideas, theories, formulas, graphics, and pictures. The Office of Student Conduct has a set of criteria that determines if students are in violation of plagiarism. This set of criteria may be set to a higher standard in graduate programs. Therefore, a student may not be found in violation of plagiarism by the Office of Student Conduct, but a professor or program requiring higher standards of attribution and citation may find a student in violation of plagiarism and administer program level sanctions. The standard in doctoral programs should be the highest as students earning these degrees are expected to be experts in their fields and producing independent work that contributes knowledge to their discipline.

To learn more, please visit <https://graduate.ucf.edu/plagiarism/>

- **HIPAA Training Module**-Required every year



# Thesis Defense

## Thesis

**The thesis should be of significant scope and depth such that the work has made advances in the area of biotechnology and should lead to a publishable thesis.**

Approval of the final thesis will require consent from the majority of the Program Faculty who choose to review the thesis, inclusive of the Thesis Advisory Committee. Faculty members with dissenting vote on the thesis must provide written justification. Scientific journal review criteria will be used as guidelines by the faculty to evaluate the final thesis for its appropriateness for publication in the target journal.

## **Thesis Committee Pre-Defense Meeting Required**

A pre-defense meeting with the full thesis committee is required and must occur at least one semester prior to defending. During this “pre-defense” meeting, the student will present their thesis work. The committee will critically evaluate whether or not the student has fulfilled all program requirements and is ready to proceed to defense. After completion of this meeting, you must submit a signed pre-defense meeting form to the Program Office that includes a statement that your advisor/committee agrees that all requirements are met to schedule your defense.

The Graduate coordinator is not required to attend the pre-defense meeting unless serving on the student’s thesis committee, but must be informed of the meeting at time of scheduling.

It is the responsibility of the student to schedule a date and time, which are amenable to all committee members. Once you have confirmed the meeting date and time with your committee, you must send an email request to the Program Office to reserve the conference rooms and IT arrangements. Please indicate which campus your meeting will be held live. The Program Office will then notify all parties of the confirmed meeting date/time. While the student and mentor are expected to host the meeting in person in either campus, other committee members have the option to attend the meeting virtually.

## **The thesis defense will be in the format of:**

An oral thesis defense is required.

- A 50-minute presentation of the thesis work, including a 5-minute introduction
- A 10-minute free period for the general audience to ask questions
- A 1-hour close-door examination by the Thesis Advisory Committee and the program faculty present.

## **Thesis defense:**

- Will be held after feedback and comments from the Journal are available, and an approval from the thesis committee to defend the thesis.
- No review type articles can be used to fulfill the manuscript requirement.
- The thesis manuscript and the reviewers’ comments must be submitted to the thesis committee for review and approval must be given at least two weeks before the thesis defense.

# University Thesis Requirements

## **Graduate Student Thesis/Dissertation Information**

All thesis students must visit the Graduate Students Thesis and Dissertation website at <https://graduate.ucf.edu/thesis-and-dissertation/> to access the timeliest thesis and dissertation information, including deadlines, step-by-step instructions for manuscript preparation and submission, and the current Thesis and Dissertation Manual.

The College of Graduate Studies [Thesis and Dissertation page](#) contains information on the university's requirements for thesis formatting, format review, defenses, final submission, and more. A step-by-step completion guide is also available on [Thesis and Dissertation Services Site](#).

All university deadlines are listed in the [Academic Calendar](#). Your program or college may have other earlier deadlines; please check with your program and college staff for additional deadlines.

You must pass your 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 thesis PDF passes the format review requirements.

### **The following requirements must be met by thesis 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 thesis document by final submission deadline

Students must format their thesis according to the standards outlined in [Thesis and Dissertation Webcourse](#). Formatting questions or issues can be submitted to the Format Help page in the [Thesis and Dissertation Services](#) site. Format reviews and final submission must be completed in the [Thesis and Dissertation Services](#) site. The Thesis Approval Form is also available in the Thesis and Dissertation Services site.

The College of Graduate Studies offers several thesis and dissertation [workshops](#) each term. Students are highly encouraged to attend these workshops early in the thesis process to fully understand the above policies and procedures.

The College of Graduate Studies thesis and dissertation office is best reached by email at [editor@ucf.edu](mailto:editor@ucf.edu).

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

**Have your committee chair complete the [Review for Original Work](#) (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 thesis or dissertation chair is responsible for scheduling this submission to iThenticate and for reviewing the results from iThenticate with the student's advisory committee. The advisory committee uses the results appropriately to assist the student in the preparation of their thesis or dissertation.

Before the student may be approved for final submission to the university, the thesis or dissertation chair must indicate completion of the Review for Original Work through iThenticate by signing the Thesis Approval Form or Dissertation Approval Form. For information about iThenticate at UCF, see [iThenticate](#) on the [Responsible Conduct of Research](#) website, Office of Research and Commercialization.

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 thesis to the [Thesis and Dissertation Services](#) site.**

New College of Graduate Studies Update - To ensure that thesis and dissertation research involving human subjects has been evaluated by the UCF Institutional Review Board (IRB) before data is collected, an IRB Checklist will be placed on the GPS degree audit of all master's thesis and doctoral students for academic progress and degree certification purposes beginning Summer 2020. **New update: Graduate faculty are now required to inform the program if the student's thesis/dissertation research involve the use of human subjects before the student's pre-defense.**

## Graduation Information

### **Pre-Defense Required for Graduation**

A pre-defense meeting with the full thesis committee is required by all students and must occur at least one semester prior to the actual thesis defense date.

### **Graduation Application – File Your Intent**

You must first be approved to graduate by your committee and the Program Office before filing an intent to graduate for the semester you are approved. Log onto <https://my.ucf.edu/> and follow this navigation: Student Self Service> Student Center> other academics (drop down menu) > Intent to Graduate> Apply.

Please be aware that if the *Intent to Graduate* is submitted after the term deadline, you will no longer be eligible to participate in the Commencement Ceremony for that semester and your name will not appear in the list of degree candidates within the associated Commencement Program.

### **Schedule Graduation Appointment with the MS Biotechnology Program Office**

All graduate students are required to meet with the Program Office one semester prior to graduation to review their program specific requirements and degree audit. Please email [BSBSGradAppts@ucf.edu](mailto:BSBSGradAppts@ucf.edu) to schedule an appointment.

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

It is the responsibility of the student to schedule a date and time, which are amenable to all committee members. Once you have confirmed the meeting date and time with your committee, you must send an email request to the Program Office to reserve the conference rooms and IT arrangements. Please indicate which campus your meeting will be held live. The Program Office will then notify all parties of the confirmed meeting date/time. While the student and mentor are expected to host the meeting in person in either campus, other committee members have the option to attend the meeting virtually.

### **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: Thesis title, name of your Committee members and your publication information. **Please follow the College of Graduate Studies new abstract guidelines.**

### **Thesis 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 [http://ww2.graduate.ucf.edu/ETD\\_Student\\_Services/](http://ww2.graduate.ucf.edu/ETD_Student_Services/).

Thesis 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](mailto:editor@ucf.edu)) 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.

### **Diploma**

Your diploma 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 [graddegr@ucf.edu](mailto:graddegr@ucf.edu). Questions can be directed to the College of Graduate Studies.

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

[Student Account Services](#) and the [Registrar's Office](#) 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 [Registrar's Office](#).

### **Commencement Ceremony Information**

Please visit the College of Graduate Studies website for Commencement information (tickets, event schedule, Simulcast time and locations). <https://commencement.ucf.edu>.

### **Cap & Gown Order**

Candidates are required to wear official regalia available exclusively through the [UCF Bookstores](#) (407-882-0364) and online through [Herff Jones](#). All rented items are due back by **5pm** on Graduation Day.

**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.**

## **MS Biotechnology 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.**

**All first year graduate students are required to sign the Burnett School of Biomedical Sciences Academic Integrity Program Form before the 1<sup>st</sup> day of Fall classes. This form addresses academic integrity and the consequences to students for academic misconduct.**

### **MS Biotechnology Graduate 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.

### **MS Biotechnology Graduate Policy Statement on Enforcement of Programmatic Requirements**

Students who fail to complete programmatic requirements (e.g., thesis proposal defense, annual thesis 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 thesis committee will be responsible for evaluating the student's progress. If a thesis 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 Program Associate Director and the Associate Dean of Graduate Studies.

### **MS Biotechnology Graduate 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 Coordinator 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 thesis 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 thesis committee member and not the mentor. If sought by the student this meeting should also include the Program Coordinator. The Program Director and Associate Director should also be informed of the meeting and have the right to attend to help resolve the issue(s).

## **Expectations for Professional Conduct**

Students are expected to adhere to the rules and regulations as stipulated by the University of Central Florida and the MS Biotechnology Program handbook. Professionalism encompasses behaviors and qualities that are expected of graduate both in the academic setting and laboratory setting. University of Central Florida MS Biotechnology degrees begin at the time of program application; therefore, professional conduct is assessed from that point forward.

Attendance, timeliness, and attire are all reflections of professionalism. In the assessment of professionalism, instructors and program administrators will consider each student's conduct; the quality of interactions; tone of oral and written communication; language; meaningful engagement in all aspects of the program; and substantive contribution to class discussions. Students who are in violation of these behaviors will be counseled and reminded of UCF expectations. In such events, the faculty or program administrators may conclude that the student is not able or willing to demonstrate an acceptable standard of professionalism. Repeated disregard or violation of these behaviors will lead to dismissal from the program. Some of the criteria by which a student's professional demeanor is measured are below.

- **Civility**: Students are expected to behave in a respectful and courteous manner to instructors, fellow students, guest speakers, college and university administrators, and UCF Staff. Examples of respectful behavior include but are not limited to modulated tone of voice; professional language that avoids inappropriate, vulgar, or foul expressions; maintaining control of emotions and avoiding threatening or bullying behaviors; respect for others' personal space; respect for BSBS property and UCF property; refraining from distracting and disruptive behaviors while on UCF campus, laboratories, hallways and in classrooms; and a generally civil demeanor.
- **Attendance**: It is required for students to attend each lecture and comply with the instructor's attendance policy as stated in the course syllabus.
- **Timeliness**: Students are expected to regularly arrive in class on time and to comply with each instructor's tardiness policy as stated in the course syllabus.
- **Use of Technology**: The use of computers, cell phones, or electronic devices during class that are unrelated to course activities or not permitted by instructors (i.e., web searches, IMs, etc.) is considered unprofessional.
- **Use of Electronic Media**: As per Florida Law (§ 934.03) it is illegal to audio or video record any interaction with another individual without their explicit consent. This includes lectures, meetings with instructors, meetings with fellow students, or any situation involving UCF staff or other personnel.
- **Appropriate Attire**: If working in a laboratory, students are required to wear the necessary personal protective equipment (PPE), included but not limited to laboratory coats, closed-toed shoes, gloves, safety glasses etc. Additionally, in accordance with UCF's Environmental Health & Safety Laboratory Safety Manual, PPE should be removed before leaving the work area. This includes removing safety glasses, gloves, lab coats, etc.
- **Guest Speakers / Presentations**: The Program often invites guest speakers to give presentations at seminars, and in the classroom. Students in the program must demonstrate professional conduct, respect, and appreciation for these professionals' donation of their time to enrich students' educational experiences. Students are expected to arrive to class on time and be attentive as a sign of appreciation for their time.

## **Other Program Requirements**

### **Professional Seminars, Program 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 attending at the annual BSBS colloquium and symposia is required.** Presentations at other settings including research divisions cannot substitute for this requirement.

MS Biotechnology (Thesis) students are required to give a program-wide seminar presentation of their own research during their second or third year. This will typically be done during the Graduate Research Symposium held in the

Spring Semester each year.

Each Fall and Spring, graduate students have the opportunity to attend seminars given by distinguished speakers who lectures about their research. The seminars offer a wide variety of diverse topics and are an important part of your graduate experience. **Graduate students are expected to attend these events.**

Students should take opportunities to present a poster or a topic of research at a conference. To obtain financial support to present at a conference (other than through your program) or to engage in comparable creative activity at a professional meeting, visit the Graduate Travel Fellowship section at [graduate.ucf.edu/](http://graduate.ucf.edu/). For additional information, please call (407) 823–2766.

For information about the Council of Southern Graduate Schools (CSGS) thesis and dissertation awards, see their website: [csgs.org/](http://csgs.org/) > Awards.

### **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.**

### **Program of Study**

A Program of Study is a listing of course work agreed to by the student and the degree program specifying course degree requirements. Students are required develop a Program of Study in consultation with the faculty Advisor and Program Coordinator, Dr. Saleh Naser.

**The Program of Study must be completed, signed and submitted to the Program Office by the Spring Semester of the first year. The Program Office will submit your form to the College of Graduate Studies**

### **6000 Level Courses in a Program of Study**

A minimum of fifteen credit hours (including thesis hours) of a Program of Study must be in 6000-level courses, which are designed for graduate students. The University Graduate Council must approve any exceptions to this requirement. (See [Graduate Catalog](#))

- At least half of the credit hours used to meet program requirements must be at the 6000 level.

**New graduate students from UCF that completed Molecular Biotechnology and Biotech Lab methods & other program courses as undergraduates (4000 level) cannot register for these courses again at 5000 level. Graduate students are required to meet with the program office to review alternative course selection(s).**

### **Grades**

**Grades of every student will be evaluated after each semester. A Grade point average of 3.0 is required.**

See Policy Below:

- The program will allow a maximum of two “C” grades in the program.
- Any student who receives a grade below a C grade in any course will automatically be dismissed from the program.
- If a student’s GPA falls below a 3.0 but remains above a 2.0, the student will automatically be placed on academic probation by the College of Graduate Studies. Students will receive a notice of probation at the beginning of the probation period, and the notice of probation will be imprinted on the student’s academic transcript.

Students will have up to 9 credit hours (one-semester) of course work (graded A-F) to attain a graduate status GPA of 3.0 or higher, at which point they will be removed from probationary status. If the student has not attained a graduate status GPA of 3.0 by the end of the probationary nine credit hours, he/she will be dismissed from the university.

- Any student who receives two consecutive “U” grades, will automatically be dismissed from the program.
- Any student who receives a GPA below 2.0, will automatically be dismissed from the program.
- Any student found guilty of scientific or academic misconduct will be immediately dismissed from the program
- International students placed on probationary status will be sent to the UCF Global for advisement regarding the immigration status implications of this action.

### **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.

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 your myUCF, 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.

### **Directed Independent Study Courses**

A maximum of three courses may be taken as independent study, for a total of no more than six semester hours. (Program Approval is needed for Independent Study)

### **Transfer Credit Policy**

Work taken at an accredited institution BEFORE a student is given graduate status at UCF may be transferred into the student's program of study.

No more than **9 semester hours** of graduate credit(s) (5000 level or more) may be transferred into the graduate program from UCF post-baccalaureate work or from other accredited institutions. The program accepts up to 9



hours of graduate course work taken at UCF while an undergraduate student as part of an undergraduate program of study. (Program approval needed to accept additional courses.)

Acceptance of such courses into a graduate program of study will be recommended by the Major Advisor, and must be approved by the Graduate Committee. This does not apply to undergraduate course work taken while an undergraduate student.

### **Graduate Program Registration**

Graduate students will work with the Program Graduate Service Office to register for courses each semester. Students must email [BSBSGradAppts@ucf.edu](mailto:BSBSGradAppts@ucf.edu) to schedule an appointment or email [BSBSGradRegistration@ucf.edu](mailto:BSBSGradRegistration@ucf.edu) for registration assistance.

### **Graduate Program Leave Policy**

**For all graduate students are supported by GTA or GRA and therefore are UCF employees.**

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

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).**

### **Independent Learning**

The required thesis allows the student to engage in independent learning.

### **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.

## **Financial Support**

### **Graduate Assistantship & Tuition Waivers**

Students accepted in the program are eligible to receive financial support in the form of a Graduate Teaching Assistantship (GTA) or a Graduate Research Assistantship (GRA), and the accompanying of available tuition waiver for no more than a total of five semesters (i.e., Fall and Spring).

Stipends are currently \$16,000 per year. These stipends support MS students for the full 12 months per year, and so students are expected to continue working in the laboratories when classes are not in session\*. Absence for more than 2 weeks per year, exclusive of UCF-approved work holidays, will result in the loss of stipend for the period of absence. After the student has identified an advisor for thesis mentorship and that advisor assumes sponsorship of the student, then leave of absence from work must be approved by the advisor.

After the student has identified an advisor for thesis mentorship and that advisor assumes sponsorship of the student, then leave of absence from work must be approved by the advisor.

For research assistantship recipients, absence in the sponsoring laboratory for a period of more than three weeks may result in temporary or permanent withholding of the assistantship.

A student's eligibility to receive financial support will be reviewed at the end of each Fall and Spring semester.

### **Students receiving assistantships are expected to:**

- Complete the Environmental Health & Safety workshops.
- Meet graduate school regulation regarding the Versant test, etc.
- Demonstrate dedication to research and teaching responsibilities.
- Maintain satisfactory academic performance - Minimum 3.0 GPA.
- Complete Program Academic Integrity Requirements
- Meet Program required deadlines

New graduate students will receive information on scholarships, fellowship and stipend payments during the Graduate Assistantship & Financial Award meeting scheduled during Orientation Week. **Exceptionally qualified students may be eligible for university enhancement awards.**

### **Tuition and Fee Payment**

**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.

<http://www.studentaccounts.ucf.edu/TuitionFees.cfm>.

### **Tuition Coverage**

Tuition waivers are subject to availability of funding.

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, a unit of Student, Development and Enrollment Services, is dedicated to the attainment of UCF's mission and goals. For detailed information, visit their website at <https://finaid.ucf.edu/>.

### **Student Account Services**

The mission of the Student Account Services office is to serve the students who attend our university by billing fees, campus housing, and other university charges accurately and efficiently, and collecting and crediting tuition revenue. We are here to provide students with quality service and information by maintaining accurate financial records and communicating policies and information to students concerning their accounts. For more information, please visit: <https://studentaccounts.ucf.edu/>

## **Graduate Teaching Assistants (GTA)**

GTA's 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. GTA's 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.

### **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.

### **Full-time Enrollment**

A full-time degree-seeking graduate student must take at least 9 credit hours in the fall and spring semesters. A half-time load is defined as enrolled in at least 4.5 credit hours in fall and spring terms. During the summer term, full-time is 6 credit hours and half-time is 3 credit hours. Masters students are part-time if they do not enroll as above except for two special cases:

- For master's students pursuing a thesis option and enrolled only in thesis coursework (MCB 6971), full-time enrollment is defined as 3 hours per semester (including summers, without skipping a semester) of thesis coursework (MCB 6971), after completion of all coursework and until graduation. Students who wish to enroll in part-time hours should consult their adviser.

There are no other exceptions and 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](mailto:gradfellowship@ucf.edu) or [gradassistantship@ucf.edu](mailto:gradassistantship@ucf.edu) before considering dropping a course if they will become part-time as a consequence.

### **Versant English Test Requirement for GTA**

The Versant English Test is used to measure the communicative competence of non-native English-speaking graduate students under consideration for teaching assistant positions at the University.

Students who are non-native speakers of English and do not have a degree from a U.S. institution must pass the Versant English Test before they will be permitted to teach as Graduate Teaching Associates (position code 9183) or Graduate Teaching Assistants (position code 9184). The Versant English Test is administered by the English language Institute and takes about 20 minutes.

### **Lab and Safety Training**

All Graduate Students are required to complete the following Lab and Safety Training Courses below. If you missed the scheduled training sessions during Orientation week, you must contact the Environmental Health and Training Office to reschedule. <http://www.ehs.ucf.edu/>

- EHS102 Biological Safety Orientation Online
- EHS140 Bloodborne Pathogens Online

- EHS201 Laboratory Safety Orientation Online
- EHS301 Radiation Safety Orientation Online
- EHS116 Practical Session

## Graduate Student Associations

### **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 affect our program.

BSGSA also helps welcome incoming students and organizes meetings aimed to help students overcome the major milestones of the Master's and PhD programs. Recently, we have 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: [BSBSGSA@gmail.com](mailto:BSBSGSA@gmail.com)

### **UCF Graduate Student Organization**

The Graduate Student Association (GSA) is UCF's graduate organization committed to enrich graduate students' personal, educational and professional experience. The Purpose of GSA is to support a culture that continually seeks out and identifies needs common throughout the graduate community, increase visibility of graduate student excellence, expertise, and professionalism through collaboration with other university partners, and demonstrate initiative, vision, and leadership in the development and execution of programming and professional development opportunities. To learn more or get involved, please visit [facebook.com/groups/UCFgsa/](https://facebook.com/groups/UCFgsa/). Contact Information: [gsa@ucf.edu](mailto:gsa@ucf.edu)

## Professional Development

### **Pathways to Success Workshops**

Coordinated by the College of Graduate Studies, the Pathways to Success program offers free development opportunities for graduate students including workshops in academic integrity, graduate grantsmanship, graduate teaching, personal development, professional development, and research. For more information and how to register, please visit [graduate.ucf.edu/pathways-to-success/](http://graduate.ucf.edu/pathways-to-success/).

### **Graduate Research Forum**

The Graduate Research Forum will feature poster displays representing UCF's diverse colleges and disciplines. It is an opportunity for students to showcase their research and creative projects and to receive valuable feedback from faculty judges. Awards for best poster presentation in each category will be given and all participants will receive recognition.

The College of Graduate Studies and the Graduate Student Association invite all UCF students, community, and employers to attend the Graduate Research Forum. For more information, contact [researchweek@ucf.edu](mailto:researchweek@ucf.edu).

## **Graduate Excellence Awards**

Each year, the College of Graduate Studies offers graduate students who strive for academic and professional excellence the opportunity to be recognized for their work. The award categories include the following:

**Award for Excellence by a Graduate Teaching Assistant** – This award is for students who provide teaching support and assistance under the direction of a lead teacher. This award focuses on the extent and quality of the assistance provided by the student to the lead instructor and the students in the class. (Not intended for students who are instructor of record)

**Award for Excellence in Graduate Student Teaching** – This award is for students who serve as instructors of record and have independent classroom responsibilities. The focus of this award is on the quality of the student's teaching and the academic contributions of those activities.

For the nomination process and eligibility criteria, see the College of Graduate Studies website [graduate.ucf.edu/awards-and-recognition/](http://graduate.ucf.edu/awards-and-recognition/).

## **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 - <http://global.ucf.edu/>

Address: 4356 Scorpius St, Orlando, FL 32816

Building GB 139

Orlando, FL 32816-0130

Phone: (407)823-2337 | Fax: (407)823-2526

## **Forms**

**All required forms must be submitted to the program office before your degree will be certified (No Exceptions)**

- [Burnett School of Biomedical Sciences Program Forms](#)
- [College of Graduate Studies Forms and References](#)  
A complete listing of general forms and references for graduate students, with direct links, may be found here.
- [Graduate Petition Form](#)  
When unusual situations arise, petitions for exceptions to policy may be requested by the student. Depending on the type of appeal, the student should contact his/her program adviser to begin the petition process.
- [Traveling Scholar Form](#)  
If a student would like to take advantage of special resources available on another campus but not available on the home campus; for example, special course offerings, research opportunities, unique laboratories and library collections, this form must be completed and approved.

## Useful Links

Provide links useful for your students. Include links to all relevant resources discussed in above sections and professional and academic development resources including organization websites, partner websites, campus, local community and industry resources.

- [Program Website](#)
- [College Website](#)
- [College of Graduate Studies](#)
- [Academic Calendar](#)
- [Bookstore](#)
- [Campus Map](#)
- [Computer Labs](#)
- [Counseling Center](#)
- [Financial Assistance](#)
- [Golden Rule Student Handbook](#)
- [Graduate Catalog](#)
- [Graduate Student Association](#)
- [Graduate Student Center](#)
- [Housing and Residence Life](#)
- [Housing, off campus](#)
- [Knights Email](#)
- [Learning Online](#)
- [Library](#)
- [NID Help](#)
- [Pathways to Success](#)
- [Recreation and Wellness Center](#)
- [Shuttles Parking Services](#)
- [Student Health Services](#)
- [Thesis and Dissertation \(ETD\)](#)
- [UCF Global](#)
- [UCF IT](#)
- [University Writing Center](#)

### **Fall 2020 Academic Calendar**

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!

<https://calendar.ucf.edu/2020/fall>

### **Knights E-mail Requirement for Thesis**

*All official university student communication must be made through Knights E-mail.* This requirement includes all thesis 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.*

# Graduate Program Faculty

## FACULTY AFFILIATIONS

DR. KENNETH ALEXANDER, NEMOURS CHILDREN'S HOSPITAL  
DR. SALVADOR ALMAGRO-MORENO, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. DEBORAH ALTOMARE, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. CLAUDIA ANDL, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. JACK BALLANTYNE, DEPARTMENT OF CHEMISTRY  
DR. SHAZIA BEG, INTERNAL MEDICINE  
DR. ELLA BOSSY-WETZEL, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. ELIZABETH BRISBOIS, DEPARTMENT OF MATERIALS SCIENCE & ENGINEERING  
DR. JONATHAN CARANTO, DEPARTMENT OF CHEMISTRY  
DR. ANALIA CASTIGLIONI, MEDICAL EDUCATION  
DR. XINQING "KARL" CHAI, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. DEBOPAM CHAKRABARTI, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. RATNA CHAKRABARTI, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. LIMEI CHEN, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
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DR. VICTOR DAVIDSON, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. WILLIAM DECAMPLI, ORLANDO HEALTH  
DR. NYLA DIL, MEDICAL EDUCATION  
DR. DENNIS DREHNER, NEMOURS CHILDREN'S HOSPITAL  
DR. STEVEN EBERT, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
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DR. STEPHEN FLORCZYK, DEPARTMENT OF ENGINEERING  
DR. ANNA FORSMAN, DEPARTMENT OF BIOLOGY  
DR. JANE GIBSON, MEDICAL EDUCATION  
DR. TIMOTHY GILBERTSON, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. XIUFANG GUO, DEPARTMENT OF NANOSCIENCE  
DR. MANISH GUPTA, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. JAMES HICKMAN, NANOSCIENCE TECHNOLOGY CENTER

DR. ROBERT HINES, INTERNAL MEDICINE  
DR. QUN "TREEN" HUO, NANOSCIENCE TECHNOLOGY CENTER  
DR. MOLLIE JEWETT, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. TRAVIS JEWETT, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. ELLEN KANG, NANOSCIENCE  
DR. THOMAS KEAN, INTERNAL MEDICINE  
DR. ANNETTE KHALED, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. BRIAN KIM, DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING  
DR. STEPHEN KING, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. STEPHEN LAMBERT, MEDICAL EDUCATION  
DR. WOO HYOUNG LEE, DEPARTMENT OF ENGINEERING & COMPUTER SCIENCE  
DR. XIAOMAN "SHAWN" LI, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. HANSEN MANSY, DEPARTMENT OF MECHANICAL & AEROSPACE ENGINEERING  
DR. MICHAL MASTERNAK, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. KAI MCKINSTRY, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. SEAN MOORE, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. SALEH NASER, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. HUNG NGUYEN, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. GRIFFITH PARKS, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. MUTHU PERIASAMY, COLLEGE OF MEDICINE  
DR. OTTO PHANSTIEL, COLLEGE OF MEDICINE  
DR. PETER POTREBKO, FLORIDA HOSPITAL  
DR. KAMAL POURMOGHADAM, THE HEART CENTER AT ARNOLD PALMER  
DR. KYLE ROHDE, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. EDWARD ROSS, INTERNAL MEDICINE  
DR. HERVE ROY, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. SUHA SALEH, COLLEGE OF HEALTH AND PUBLIC AFFAIRS  
DR. SWADESHMUKUL SANTRA, NANOSCIENCE TECHNOLOGY CENTER  
DR. WILLIAM SELF, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. SHADAB SIDDIQI, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. DINENDER SINGLA, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. JOSEPH SORG, GRADUATE FACULTY SCHOLAR  
DR. JULIA SOULAKOVA, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. AMBER SOUTHWELL, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. ROBERT STEWARD, DEPARTMENT OF ENGINEERING  
DR. TARA STRUTT, BURNETT SCHOOL OF BIOMEDICAL SCIENCES  
DR. KIMINOBU SUGAYA, BURNETT SCHOOL OF BIOMEDICAL SCIENCES



DR. LINDSAY TALIAFERRO, INTERNAL MEDICINE

DR. SUREN TATULIAN, PHYSICS

DR. KENNETH TETER, BURNETT SCHOOL OF BIOMEDICAL SCIENCES

DR. JUSTINE TIGNO-ARANJUEZ, BURNETT SCHOOL OF BIOMEDICAL SCIENCES

DR. LAURENCE VON KALM, DEPARTMENT OF BIOLOGY

DR. WILLIAM WARREN, SANOFI PASTEUR VAXDESIGN

DR. BRADLEY WILLENBERG, INTERNAL MEDICINE

DR. SHIBU YOOSEPH, DEPARTMENT OF COMPUTER SCIENCE

DR. JIANN-SHIU YUAN, DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

DR. YU YUAN, DEPARTMENT OF CHEMISTRY

DR. ANTONIS ZERVOS, BURNETT SCHOOL OF BIOMEDICAL SCIENCES

DR. SHAOJIE ZHANG, DEPARTMENT OF COMPUTER SCIENCE

DR. WENCAI ZHANG, BURNETT SCHOOL OF BIOMEDICAL SCIENCES

DR. JIHE "JACKIE" ZHAO, BURNETT SCHOOL OF BIOMEDICAL SCIENCES

# Facilities

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



**Biomedical Sciences Building, Main Campus**



**Burnett Biomedical Sciences Building, Health Sciences Campus**



**Health & Public Affairs II Building, Main Campus**



**Biomedical Research Annex, Research Park**



**UCF Lake Nona Cancer Center, Health Sciences 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 <http://parking.ucf.edu/shuttles/health-sciences-schedule/>

# Contact Info

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

The Biomedical Sciences Graduate Services Office is an integral part of ensuring our graduate students' success. We assist with admissions, orientation, course registration, and are heavily involved in making sure our graduate students complete their required milestones throughout their graduate student career.

We are here and ready to answer all of your questions!

We are available to assist you by phone, email or in person (by appointment).

For more information, please email [BSBSGradAdmissions@ucf.edu](mailto:BSBSGradAdmissions@ucf.edu)

Lisa Vaughn, Senior Admissions Specialist

[Lisa.Vaughn@ucf.edu](mailto:Lisa.Vaughn@ucf.edu)

## **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 MS Biotechnology Thesis program reserves the right to make any changes or amendments to the Program/Handbook information, rules, or policies within the students' period of study upon majority approval of the program faculty, director and coordinator.***