Department of Microbiology and Cell Science College of Agricultural and Life Sciences University of Florida/IFAS

Graduate Program Handbook

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Table Of Contents

Welcome from the Chair of Microbiology and Cell Science	4
Department Main Office Contact Information	
Graduate Faculty Directory and Research Information	
Graduate Programs of Study	5
Ph.D. Program General Information and Degree Requirements	5
Application and Admissions Information	
To-Do list for New Ph.D. Students	
To-do List for Newly Admitted International Students	
Applying for Florida Residency	
Stipend and Tuition Waiver Information for Ph.D. Program	
Graduate Assistantship Responsibilities	
Selecting a Major Professor	8
Steps to Take when Selecting a Major Professor	
Supervisory Committee and Plan of Study	
Individual Development Plans (IDP)	
Ph.D. Course Requirements	
Required Courses.	
Seminar	10
Journal Colloquy	11
Supervised Teaching	
Module Courses	
Biochemistry	11
Elective Courses.	
Example Plan of Study	12
Required Examinations	
Comprehensive Written Preliminary Examination	
Qualifying Oral Exam	
Admission to Candidacy	
Dissertation	13
Final Oral Examination and Dissertation Defense.	13
Preparing for Graduation – Ph.D. Program	13
Cleared Prior.	
Online MS degree in Microbiology and Cell Science	14
Online MS Degree Admission Requirements	
Online M.S. Degree Requirements	
Online M.S. Course Requirements	
Regular Track	
Introductory Track.	
Elective Courses	16
Exam Proctoring	
Preparing for Graduation – Online M.S. Program	
Comprehensive Examination	
Academic Integrity	
Academic Problems	
Time Limit	
Unsatisfactory Scholarship	

Repeating Courses	18
Registration Adjustment – Drop/Add	
Procedure for Changing Major Professor	
Additional Student Resources	
Information for International Students	
Student Health Insurance Requirement	20
Grading System	20
Calculating Grade Point Averages	
Financial Aid	

Welcome from the Chair of Microbiology and Cell Science

Welcome to the graduate program of the Department of Microbiology and Cell Science (MCS) at the University of Florida (UF). The purpose of this handbook is to provide new and continuing graduate students with information regarding Microbiology and Cell Science department policies and information.

Information regarding University policies can be found in the <u>University of Florida Graduate Catalog.</u> If you have any problems or questions about any of the information within either student guide, please feel free to consult with the Department's Student Services Coordinator:

Jacqueline Lee Academic Advisor <u>jlee9@ufl.edu</u> Bldg. 981, Room 1002

The graduate program in the Department of Microbiology and Cell Science is administered by the College of Agricultural and Life Sciences (CALS), a unit of the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida. The primary goal of the Department of Microbiology and Cell Science is to train qualified students for professional careers in research and teaching.

Currently, there are 25 tenure-track and 6 non-tenure-eligible faculty members, working closely with over 50 graduate students on exciting research dealing with microbial physiology, metabolism, regulation, molecular biology, molecular genetics, immunology, virology, host-pathogen interactions in plants and animals, cellular ultrastructure, and environmental microbiology.

You will find us to be an active and engaging faculty. We work hard to provide our graduate students with excellent projects and a productive working environment. Join us in this exciting era for microbiology and cell science.

Eric W. Triplett, Ph.D. Professor and Chair ewt@ufl.edu

Department Main Office Contact Information

The MCS Department Main Office is located in room 1052, near the front of the Microbiology building directly adjacent to Museum Road. You can <u>find a map</u> indicating the location of the building on our website.

You can find office locations and contact information in the MCS Department Staff Directory.

The MCS Main Office Staff manage the daily administrative activities of the department. If you have any questions or concerns, please do not hesitate to contact anyone within this office.

A good first point of contact for any graduate student inquiries would be the MCS Graduate Advisor.

Graduate Faculty Directory and Research Information

<u>Faculty profiles</u> for the department of Microbiology and Cell Science can be found on our website. This directory includes faculty contact information and Google Scholar Profiles, which contain most of their research publications.

You can also visit the MCS Department Google Scholar Profile, which includes the combined works of all faculty who are currently active within the department.

For more information about research being conducted within the department, please feel free to contact the Graduate Program Coordinator:

Dr. Julie Maupin-Furlow Graduate Coordinator 352-392-4095 jmaupin@ufl.edu

Graduate Programs of Study

The Department of Microbiology and Cell Science currently offers two graduate degree programs:

PhD in Microbiology and Cell Science

Online MS degree in Microbiology and Cell Science with concentration in Medical Microbiology and Biochemistry

Ph.D. Program General Information and Degree Requirements

A minimum of 90 credit hours beyond the student's acquisition of a bachelor's degree, in graduate level courses (5000 - 7000) is required. No more than 30 credit hours of a master's degree from another institution will be

transferred to a doctoral program. Unless the previous master's degree was earned at the University of Florida, the Master's work will not be counted in the program unless the department specifically petitions and acquires the approval of the Dean of the Graduate School and the College of Agricultural and Life Sciences.

Ph.D. students must register for a minimum of 9 credit hours for Fall and Spring semesters. Minimum registration for the Summer is 6 credit hours. Minimum study load for domestic "part-time" graduate students not on assistantship is three credits during Fall and Spring and two credits for Summer. International students not on an assistantship must register for the correct number of credit hours required to assure compliance with the requirements of their visa.

Application and Admissions Information

Admission to the UF Microbiology and Cell Science Ph.D. program requires that an applicant be accepted both by the UF Graduate School, the College of Agricultural and Life Sciences, and by the MCS Department. Visit our MCS admissions website to learn more about the most current application and admission requirements. The official application can be found at the University of Florida Graduate School Admissions website.

The department strongly encourages all applicants to have completed undergraduate microbiology and biochemistry coursework before applying. Although this is not a definitive program requirement, it is extremely beneficial to a candidate's successful completion of the MCS graduate education within a reasonable amount of time.

Please contact the MCS Graduate Advisor if you have any questions regarding the admissions procedures and requirements.

To-Do list for New Ph.D. Students

Complete GradStart Orientation

Attend the Microbiology Graduate Teaching Assistant orientation organized by <u>Dr. Monika Oli</u>, Lab Coordinator for Microbiology and Cell Science. The orientation takes place at <u>the Microbiology building</u>.

Attend the annual Microbiology Graduate Symposium – The symposium is a two-day event that is required for all students. Lodging will be provided for students by the department. Contact the MCS Graduate Advisor for more details. Symposium is generally held on the Thursday and Friday before the start of Fall classes each year.

To-do List for Newly Admitted International Students

Receive your I-20: Review the International Student Services website for <u>instructions on how to receive your I-20</u>.

Receive your Visa: Review the International Student Services website for instructions on how to apply for your visa.

Complete the check-in process for new international students.

If your score on the TOEFL iBT Speaking Portion is less than 23, you must complete the UF SPEAK Test.

Florida law requires all international teaching assistants (ITAs) to demonstrate oral proficiency in English. Students who scored 23-27 on the TOEFL iBT (or 45-50 on the SPEAK test) will be permitted a provisional teaching assignment if they concurrently enroll in EAP5836 (Academic Spoken English 2).

Applying for Florida Residency

U.S. citizens, permanent residents, and others included in Section 4 of the Board of Education Rule 6a-10.044 are eligible to apply for Florida residency.

Laws created by the Florida Legislature exclusively control residency reclassification for tuition purposes. For assessing tuition, residency and non-residency status shall be determined as provided in Classification of Students Florida or Non-Florida (Section 6A-10.044, Florida Administrative Code), Section 240.1201, Florida Statutes, and the Florida State University System Residency Policy and Procedure Manual [revised effective October 17, 2000]. The law may be found in its entirety online.

The residency review staff members in the Office of the University Registrar are not authorized to provide guidance on methods of obtaining residency. Their role is to review applications for Florida resident status, together with supportive documentation, and to render a decision based on the documentation and the requirements of Florida law.

This law, the rules, and the implementation manual presume that students who are initially classified as non-resident will not be reclassified as residents merely by being enrolled for one year. Physical residence in Florida that is merely incidental to enrollment in a college is not sufficient, under Florida law, to obtain reclassification. It is the sole responsibility of the applicant to provide all appropriate documentation to merit a reclassification for tuition purposes.

A student wishing to establish residency should pick up the Request for Change in Residency Status form from the Office of the University Registrar, 222 Criser Hall, to review the information and items that may be requested when filing for Florida residency for tuition purposes. Check the <u>registrar's residency website</u> for updated information.

For more information, contact:

Initial Classification	Office of Admissions	352-392-1365
Reclassification	Office of the University Registrar	352-392-1374

Stipend and Tuition Waiver Information for Ph.D. Program

Stipends are available to financially assist MCS Ph.D. students. The amount of the stipends for the current academic year is \$31,900 for all students accepted into the Ph.D. program, paid bi-weekly (This is subject to change for each newly admitted cohort).

Students in the MCS Ph.D. program will also receive a Graduate Tuition Payment or Tuition Waiver. To receive a Graduate Tuition Waiver, a student must 1) be admitted and enrolled in a graduate program at the University of Florida, 2) maintain a GPA of 3.00 (truncated), and 3) be registered for the number of credits required for the appointment.

Tuition and fees at UF are usually charged on a per credit hour basis. The tuition and fees for each credit hour

include several student services fees. A Graduate Tuition Payment pays the matriculation fee (often referred to as "in-state" tuition) and, if necessary, the nonresident fee ("out-of-state" tuition) for the number of credits required for the appointment. The student is responsible for paying the student services fees for all credits. For a standard 9 credit academic semester, the fees are about \$750 per semester. The MCS Department automatically processes Graduate Tuition Waivers at the beginning of each semester.

A Graduate Tuition Waiver is NOT available for audited courses, correspondence work, DOCE courses, self- funded courses, courses not eligible to count toward a graduate degree, or dropped courses regardless of the point of the term at which the course is dropped. In addition, the student is responsible for paying all tuition and fees for credits carried over the minimum number of credits required for the appointment. Any change in the student's academic or employment status after processing the Graduate Tuition Waiver will result in the entire original payment liability being reassigned to the student.

For further information or clarification, contact the Academic Personnel Office, 352-392-2477. For more information, please review the <u>UF Graduate Catalog.</u>

Students seeking financial assistance can normally expect continued financial support from the department upon satisfactory progress towards fulfilling their degree requirements. However, this continued financial assistance is dependent on the availability of funds within the department. Support will be available only for a maximum of fifteen (15) semesters for Ph.D. students entering the program with a B.S. degree. It is anticipated that students entering this program with a M.S. or B.S. degree normally finish their degree requirements in 4-5 years. Please refer to the UF Graduate Catalog for more information.

Graduate Assistantship Responsibilities

Ph.D. students receiving financial support (i.e. Stipends, Graduate Tuition Waivers, Fellowships etc.) as a teaching or a research assistant are required to spend 20 hours per week over a period of the appointment on assigned duties in addition to their own graduate research and coursework.

Normally, all Ph.D. students are required to teach during their first year. Teaching Assistantship duties normally will not exceed 9 classroom contact hours or 12 laboratory contact hours. Other assigned duties may include: laboratory preparation, grading, staff meetings, student consultation, and required lecture attendance. Research Assistantship duties, not directly related to the student's thesis or dissertation, will be specified by the major professor.

Graduate Student Assistantships and Fellowships are appointments for 12 months. Students on Assistantships or Fellowships are expected to devote their full time in pursuance of their degree objectives. This includes the time both during the semesters and the semester breaks. Outside jobs (including weekends) are not permitted while enrolled in the MCS department. Graduate students are entitled to five working days of vacation in addition to official state holidays per semester. Vacation should be taken when it does not interfere with other assigned duties and with the approval of the student's major professor.

For more information on Graduate Assistantships, please review the <u>UF Graduate Catalog</u>.

Selecting a Major Professor

The selection of a major professor is one of the most crucial decisions a graduate student makes. The composition of the total laboratory group is important since the vitality and enthusiasm of your fellow laboratory workers will have a great influence upon the direction and character your own research will assume.

The ideal laboratory environment should allow you to reach your full research potential by promoting the frequent exchange of views that often lead to a creative mixing of ideas and novel technical approaches to experimental design. It is important that you select a laboratory group with which you will enjoy working and one that has the time and resources to provide you the best possible foundation in your research specialty. The importance of this decision in shaping your future career potential cannot be overemphasized and, therefore, deserves the careful and immediate consideration of each new student.

To select a Major Professor, Graduate students should:

Schedule meetings (in person, over the phone, or through zoom) with individual faculty members (preferably during the summer before classes begin) to determine who you would be interested in selecting as your major professor. These meetings will provide you with the opportunity to learn about the diversity of research programs existing within the department. Contact information, including research interests for all faculty members can be found in the faculty directory.

Select three faculty members within the department in which the student can complete five-week rotations during the first semester on campus. These rotations are designed to provide an opportunity for the student to gain first-hand working knowledge of the faculty member's research and laboratory environment. Discussions with faculty members in the research areas of the student's interest and the <u>Graduate Studies Coordinator</u> should aid in selecting the three-labs/faculty members for these research rotations. Students interested in rotating with off-campus faculty (Kennedy Space Center, Lake Alfred, Fort Lauderdale) should contact those faculty members directly before the start of the semester. PhD Students are expected to complete three rotations.

New students should select a major professor at the end of their third 5-week research rotation. They will rank preference of the three faculty members they rotated with and the department will notify them of the final lab decision. Typically, students will receive their top choice. Students are expected to start active research in their selected research laboratory at the beginning of the second semester of their graduate program.

Supervisory Committee and Plan of Study

Students should select their supervisory committee in consultation with the major professor. The committee should be appointed as soon as possible after the student has begun graduate work, and, in general, no later than the end of the second semester of full-time study. Failure to select a supervisory committee by the end of the second semester could prevent further registration and cause termination of assistantship support until the deficiency is remedied. A supervisory committee selection form will be emailed to the student and completed through DocuSign.

Supervisory committees for the Ph.D. degree should have a minimum of four members. Members of the Supervisory Committee for the Ph.D. degree must have Graduate Faculty status. One member, the official "external" member, of the Ph.D. committee must be selected from a department different from that in which the degree is being sought and is not an affiliate faculty of the Department of Microbiology and Cell Science. At least two members must be selected from the Department of Microbiology and Cell Science. Graduate students are expected to meet with their supervisory committee on a regular basis (twice per year is recommended). Students should complete a Committee Meeting form for each committee meeting and submit the signed form to the graduate advisor.

Following the selection of a supervisory committee, a <u>Plan of Study</u> must be submitted by the middle of the third semester of enrollment in graduate school. The plan of study lists all of the courses to be taken by the student to satisfy the course work requirements and must be approved by the supervisory committee. A plan of study form will be emailed to the student and completed through DocuSign.

Please review the <u>UF Graduate Catalog</u> for additional information on the make-up and responsibilities of the supervisory committee.

Individual Development Plans (IDP)

All U.F. Ph.D. students are required to create and update an Individual Development Plan (IDP) on an annual basis, in consultation with their major professor. The IDP is intended to be a working document to guide new and continuing Ph.D. students in identifying, pursuing, and meeting their professional goals.

MCS Ph.D. students should complete the year 1 form by no later than the summer semester of their first year of graduate study (semester 3). Once completed, the student should schedule a meeting with their major professor to discuss the IDP and their goals for the next year. Both the student and faculty member should sign the document and the student should present it to their Ph.D. committee for discussion during the first committee meeting. The document should also be presented to the graduate coordinator and saved as part of the student's permanent record.

Subsequent IDP forms (for years 2-4) should be filled out by the student and discussed with major professor and Ph.D. committee members annually, no later than the end of the summer semester (semesters 6, 9, and 12).

The IDP forms can be found on the MCS department website. Students in their first year should use the Year 1 form. Students beyond the first year of enrollment should use the Year 2-Year 4 form. Additional information on the IDP process can be found on the UF Graduate School Website.

PhD students working on their Individual Development Plan are encouraged to access this <u>CALS website</u>. There they will find specific resources to help them gain skills in the IDP core competencies of Research Skills & Knowledge, Communication, Management and Leadership Skills, Effectiveness/Purpose, Professionalism, and Career Advancement.

Ph.D. Course Requirements

Ph.D. students within the department do not register for classes through their ONE.UF student account. Contact the MCS Graduate Advisor to register. Although there are some minor variations depending on a student's background or circumstances, the first-year schedule is generally uniform, and set by the department faculty. Students may request enrollment in elective courses, however, registration is handled by the department Main Office, and will require approval from the student's major professor, supervisory committee, or from the MCS Graduate Advisor.

Ph.D. students are required to take 24 credits per year, 9 per semester in the fall and spring, and 6 in the summer. Any deviation from the required plan of study will require approval from your major professor (or supervisory committee) and/or the department chair.

Required Courses

Seminar

MCB~6930-(1~credit,~pass/fail) - All Microbiology and Cell Science graduate students are required to participate in the department's seminar course each fall and spring semester. The seminar schedule is posted each semester on the departmental website and takes place in the MCS Seminar room every Monday at 4:00~PM.

Journal Colloquy

MCB 7922 – (1 credit, graded) - All Microbiology and Cell Science graduate students are required to participate in a department Journal Colloquy course each fall and spring semester. Most tenure-track faculty members in the department will teach a journal colloquy each semester. Students in their first year can seek guidance from the MCS Graduate Advisor in selecting a journal colloquy. Primary research papers correlated with the faculty member's area of research will be assigned for reading, analysis, and in-class presentations.

Supervised Teaching

MCB6940 – (1 credit, graded) - All graduate students within the department of Microbiology and Cell Science must complete a teaching requirement. International students who do not test out of the Academic Spoken English requirement will also register for EAP 5836 – Academic Spoken English concurrently with their teaching assignment. International students who have not scored a 23 or higher on the TOEFL iBT test, or a 45 or higher on the UF SPEAK test, are not permitted to teach until they overcome the deficiency. Students will be placed in one of the following undergraduate labs to complete their teaching requirement:

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MCB2000L – Microbiology lab for non-science majors
MCB3020L – Microbiology lab for non-microbiology science majors
MCB3023L – Microbiology lab for microbiology majors
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Ph.D. students are required to teach a minimum of two semesters (2 credits) and will almost always conduct teaching assignments during the fall and spring semester of their first year. International students who do not initially pass the spoken English language requirement typically begin their teaching assignments in the fall semester of their second year. Ph.D. students in this scenario will typically conduct teaching assignments during the fall and spring semester of their second year. Teaching assignments are also available in the summer, but are limited in availability.

Module Courses

A full list of graduate courses and <u>graduate course descriptions</u> can be found on the MCS website. Students are generally expected to complete these required courses during the first year. In some cases, students with a more limited background may be required to take additional coursework to prepare for the required courses.

Fall Courses:

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BSC 6459 – Fundamentals in Bioinformatics – (3 credits)
MCB 6317 – Molecular Biology of Gene Expression – (1 credit)
MCB 6417 – Microbial Metabolism and Energetics – (1 credit)
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Spring Courses:

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MCB 6318 – Comparative Microbial Genomics – (2 credits)
MCB 6355 – Microbial/Host Defense – (1 credit)
MCB 6772 – Advanced Topics in Cell Biology – (1 credit)
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Biochemistry

Several biochemistry course options are available. Check with the MCS graduate advisor for a full list.

Elective Courses

Students are permitted to select elective courses specific to their area of research interest in consultation with their major professor and supervisory committee.

Electives offered outside of Microbiology and Cell Science will require the additional approval of the outside department. You can search for electives using the <u>University of Florida Graduate Catalog</u> or the <u>UF Schedule of Courses</u>.

Example Plan of Study

Example Plans of Study for Ph.D. Students – Contact the MCS Graduate advisor for more information.

Each student within the program may have variations regarding their prerequisites, research, and elective coursework. It is the student's responsibility to meet with their major professor/supervisory committee to plan out their coursework and to understand their academic and research goals and expectations. Contact the MCS Graduate Advisor if you have any questions.

Required Examinations

The MCS Ph.D. program requires that all students pass three exams to graduate:

- Comprehensive Written Preliminary Examination
- Qualifying Oral Examination
- Final Oral Examination/Dissertation Defense

Comprehensive Written Preliminary Examination

The written preliminary examination will consist of questions from topic areas selected by the student's supervisory committee. Each member of the student's supervisory committee will compose and grade a written examination. Participation in this examination is optional for external members. A student's supervisory committee may submit questions in the student's specialty area or on general topics such as: 1) molecular biology and genetics 2) metabolism and regulation 3) cellular structure and function and/or 4) immunology and virology. The written preliminary examination must be taken no later than the end of the second year of graduate study (typically in the summer semester of the second year). A make-up exam may be given for those showing unsatisfactory performance in one or more topics. If additional course work is recommended, the make-up exam will be given upon demonstration of satisfactory course performance. The MCS Graduate Advisor will contact the student and their supervisory committee to initiate the written examination process at the appropriate time.

Qualifying Oral Exam

This examination will be administered by the student's supervisory committee and given within six months of successful completion of the comprehensive written preliminary examination. The subject matter tested will be determined by the individual supervisory committee and will include questions in the student's specialty area. The student should prepare a brief, written research proposal (patterned after NIH or NSF guidelines) on the research completed and planned and submit to the supervisory committee. The student will also orally present this to the

committee at the beginning of the examination. A student showing unsatisfactory performance on the oral preliminary exam will be permitted one re-examination.

Admission to Candidacy

The student's supervisory committee will make a recommendation concerning admission to candidacy for the Ph.D. degree as soon as possible after the oral preliminary examination. Approval will be based on the academic record of the student, satisfactory performance on both written and oral examinations, selection of a suitable dissertation topic, a demonstrated ability to conduct laboratory research, and the overall fitness of the student for candidacy.

Dissertation

The candidate is required to prepare a dissertation that shows independent investigation, makes a significant contribution to the research field, and must be publishable. The department is responsible for quality and scholarship. The format, typing, and position requirements of the <u>Graduate School Editorial Office</u> take precedence over any MCS department specifications. A copy of the dissertation is to be provided to the department. Complete instructions detailing the expectations and guidelines for a student's dissertation can be found in the <u>UF Graduate Catalog.</u> Contact the UF Graduate School Editorial office directly with formatting questions:

Walk-in: HUB 224 Phone: (352) 392-1282 Fax: (352) 846-1855

Email: gradedit@aa.ufl.edu Mail: 224B Hub Stadium Road

P.O. Box 118461

Gainesville, FL 32611-8461

Official Dissertation Completion and Submission Checklist

Final Oral Examination and Dissertation Defense

The student must present a departmental seminar of the dissertation research to be immediately followed by an oral defense administered by the individual's supervisory committee. At least five faculty members must be present during the department seminar. During the terms of the qualifying examination and the final term in which the degree is awarded, the student must be registered for credits that count toward the graduate degree. In the latter of the two terms cited, doctoral students must register for 7979 during the qualifying exam term and 7980 at the final term

Preparing for Graduation - Ph.D. Program

Degrees are awarded after each term in December, May, and August. The semester before graduation, the candidate should check his or her file with the MCS Graduate Advisor to make sure that all incompletes or other unresolved grades are cleared, grade changes have been recorded, and the supervisory committee (if required) and all degree program details listed in the web-based Graduate Information Management System (GIMS) are accurate.

Application for the degree must be made online early in the semester of graduation by the deadline published in the University Calendar and the <u>Graduate School Academic Calendar</u>. Application for the degree assures that the student's name is on the graduation list and includes the application for the diploma, placement of the student's name in the commencement program, and placement of the name on the list to receive information on commencement procedures, including rental or purchase of regalia. Application for graduation must be made each term a student anticipates graduating. The application does not carry over from a previous semester.

Failure to make an application by the published deadline will preclude the student's graduation in that term.

Students must register for at least three credits (two in Summer) that count toward the degree during the semester of graduation. Students on an assistantship, fellowship, or traineeship must be registered appropriately for their appointment. Ph.D. students must register for MCB 7980 in their final semester of study.

Satisfactory performance on the final examination or defense and final submission of the corrected thesis or dissertation must be completed by the deadline dates shown in the <u>Graduate School calendar</u>. Diplomas will be available approximately eight weeks after Commencement and will be mailed by the Registrar's Office to the graduates' permanent addresses. Degree remarks are posted to the student's transcript by the Registrar's Office and are generally available the day after certification. <u>Click here to review the dissertation checklist.</u>

Cleared Prior

Cleared Prior permits students to be exempt from registration for the term in which the degree will be awarded. Clearing prior is a possibility only for Thesis and Dissertation students who have met all published deadlines for the current term except Final Clearance from the Graduate Editorial Office. No other students are eligible. More information can be found on the <u>UF Graduate Editorial Office Website</u>. A student must meet all of the posted criteria from the <u>UF Graduate Catalog</u> to receive approval for Cleared Prior status.

Online MS degree in Microbiology and Cell Science

The University of Florida's online Master of Science in Microbiology and Cell Science with a concentration in Medical Microbiology and Biochemistry is a 100% online M.S. non-thesis degree program. There is no graduate stipend or TA supplement awarded for this non-thesis program. Online M.S. degree program participants are responsible for all of their fees and tuition out of pocket or through financial aid. There are two tracks within the degree program:

Regular Track:

Students entering the program with an appropriate science background must complete 30 credits to graduate.

Introductory Track:

Students entering the program without microbiology or biochemistry must complete the 37 credit Introductory track to graduate.

Online MS Degree Admission Requirements

Students should visit the Online M.S. Degree Program website for instructions on how to apply.

The <u>admissions requirements</u> for the Online M.S. Degree program are listed below:

- A bachelor's degree from one of the institutional accreditors (or international equivalent) found at https://admissions.ufl.edu/apply/graduate/accreditation (recommended major in the sciences)
- 3.0 Overall GPA, and 3.0 Upper Division GPA (Rules on calculating GPA)
- If your GPA is below this requirement but is at least 2.7, we recommend applying for a microbiology graduate certificate program. If you are accepted and maintain a 3.5 GPA, you may become eligible for the master's degree program.
- A resume/CV
- Required undergraduate courses for applicants:

- o General Biology (2 semesters)
- o General Chemistry (2 semesters)
- o Organic Chemistry (1 semester)
- Recommended undergraduate courses for applicants:
 - Microbiology
 - o Biochemistry

Students who have not completed a microbiology course or biochemistry course at the undergraduate level are eligible to join the introductory track program, which is 37 credits, and allows students to take GMS5905 Fundamentals of Biochemistry and Molecular Biology and MCB6937 Biology of Microorganisms in the first semester.

Students without an undergraduate degree in the sciences are welcome to apply if the required undergraduate coursework has been completed. Relevant professional experience may substitute for academic coursework on a case-by-case basis.

Pursuant to Florida Statute, your application requires inclusion of all post-high school education and employment, as well as information about ongoing international affiliations and research funding. Please ensure this information is included on your curriculum vitae (CV) or résumé.

The GRE is not required for admission into our master's degree program.

Online M.S. Degree Requirements

- 30 overall credits are required <u>Download the list of degree requirements</u>
- Only courses completed with a grade of C or higher can be counted towards the degree
- Students must maintain both a 3.0 overall GPA and 3.0 major GPA to graduate
- A lower GPA will result in <u>academic probation</u>
- 15 of the 30 credits must be completed in major courses with a MCB, PCB, or BSC prefix
- Students must take at least three credits in the graduation semester (two credits if graduating in the summer semester)
- Satisfactorily complete MCB 7922 Final Literature Review in the graduation semester
- Final Literature Review Guidelines
- We will not accept transfer credits from other programs/institutions, so all 30 credits must be completed through our required or elective coursework.

Online M.S. Course Requirements

Regular Track

Take all of the following:

BSC 6459 – Fundamentals in Bioinformatics – 3 credits

BCH 5413 – Mammalian Molecular Biology and Genetics – 3 credits

MCB 7922 – Final Literature Review – 1 credit

Choose one of the following:

MCB 5205 – Microbiology of Human Pathogens – 3 credits

GMS 6121 – Infectious Disease – 3 credits

Choose one of the following:

GMS 7133 – Advanced Molecular Virology – 2 credits

MCB 5505 – Virology – 3 credits

Choose one of the following:

GMS 7192 – Infectious Disease Journal Colloquy – 1 credit

GMS 7192 – Advanced Bacteriology Journal Colloquy – 1 credit

GMS 7192 - COVID-19 Journal Colloquy - 1 credit

MCB 7922 – Journal Colloquy (various topics) – 1 credit

Introductory Track:

Students in the introductory track must also take the following courses in order to graduate:

MCB 6937 – Special Topics: Biology of Microorganisms – 3 credits

GMS 5905 – Fundamentals of Biochemistry and Molecular Biology – 4 credits

Elective Courses

MCB 6424 Probiotics – 3 credits

MCB 6670c The Microbiome – 3 credits

MCB 6937 Synthetic Biology- 3 credits

MCB 6151 Prokaryotic Diversity – 3 credits

MCB 6656 Environmental Microbiology – 3 credits

MCB 6407 Prokaryotic Cell Structure and Function – 3 credits

MCB 6937 Advanced Molecular Genetics – 3 credits

MCB 6937 Fundamentals in Molecular Genetics – 3 credits

MCB 5252 Microbiology, Immunology, and Immunotherapeutics – 4 credits

PCB 6667 Human Genomics – 3 credits

GMS 6132 Introductory Gene and Immunotherapy – 2 credits

PCB 5235 Immunology – 3 credits

GMS 6108 Advanced Bacteriology, Antibiotics, and Genetics – 3 credits

GMS 6109 Advanced Bacteriology – 2 credits

MCB 6458 Post Translational Modifications in Microbiology – 2 credits

MCB 5270 Antimicrobial Resistance – 3 credits

MCB 5705 Astrobiology – 3 credits

MCB 6796 Analysis, Interpretation, and Visualization of Microbiological Data – 3 credits

MCB 6417 Microbial Metabolism and Energetics – 1 credit

MCB 6317 Molecular Biology of Gene Expression – 1 credit

MCB 6095 Microbiology Careers – 1 credit

MCB 6096 Innovation Project Management – 1 credit

MCB 6772 Advanced Topics in Cell Biology – 1 credit

MCB 6355 Microbial/Host Defense – 1 credit

MCB 6937 Methods to Study Prokaryotic Transcriptional Regulation – 1 credit

MCB 6318 Comparative Microbial Genomics – 2 credits

MCB 6937 Microbial Multicellularity – 2 credits

All courses in this program must be taken for a letter grade. A full course planning document can be found on the Online M.S. website. For more information, contact the MCS Online M.S. Advisor.

Exam Proctoring

All exams in the online Microbiology & Cell Science program are proctored to maintain the academic integrity of the department, the university, and the degree you are earning. The University of Florida has chosen ProctorU and Honorlock as the proctoring service for this program. You will take your exams online, anywhere with internet access. Your professors will establish the exam time and any requirements, and the following checklist can help you prepare to use this service.

Technical Requirements

Students are responsible for meeting the following technical requirements:

- A reliable computer running Windows XP (or higher) or Mac OS X 10 (or higher).
- A web cam with 640×480 video pixel resolution or higher.
- Headphones or working speakers connected to the computer.
- A working microphone connected to the computer. We recommend a web cam that has a built-in microphone.
- A web browser with Adobe Flash Player installed. We recommend Flash Player 11.
- A reliable, high-speed internet connection.
- The ability to allow video and screen-sharing connections to the computer you will be using to take your exam.

You may can test your computer, web cam, and internet connection at www.ProctorU.com/Testitout.
Your proctoring fee is pre-paid, and there are no additional costs to students for using this service. You will be provided detailed information for using the service from your professors.

Preparing for Graduation - Online M.S. Program

Degrees are awarded after each term in December, May, and August. The semester before graduation, the candidate should check his or her file with the MCS Graduate Advisor to make sure that all incompletes or other unresolved grades are cleared, grade changes have been recorded, and the supervisory committee (if required) and all degree program details listed in the web-based Graduate Information Management System (GIMS) are accurate.

Application for the degree must be made online early in the semester of graduation by the deadline published in the Graduate School Academic Calendar. Application for the degree assures that the student's name is on the graduation list and includes the application for the diploma, placement of the student's name in the commencement program, and placement of the name on the list to receive information on commencement procedures, including rental or purchase of regalia. Application for graduation must be made each term a student anticipates graduating. The application does not carry over from a previous semester. Failure to make an application by the published deadline will preclude the student's graduation in that term. Students must register for at least three credits (two in Summer) that count toward the degree during the semester of graduation.

Students must show satisfactory performance on the Comprehensive Written Final Exam by the deadline dates shown in the <u>Graduate School calendar</u>. Diplomas will be available approximately six weeks after Commencement and will be mailed by the Registrar's Office to the graduates' permanent addresses. Degree remarks are posted to the student's transcript by the Registrar's Office and are generally available the day after certification. <u>Click here to see a graduation checklist for all graduate students</u>.

Comprehensive Examination

All students in the program are required to complete a comprehensive final examination in order to graduate with a M.S. non-thesis degree from the University of Florida. The department will disseminate this exam to all students who have registered for MCB7922 Final Literature Review in their graduation semester. Directions for submitting completed final exams will be given at the time they are assigned.

Academic Integrity

Plagiarism is not tolerated at the University of Florida. Plagiarism in a thesis or dissertation is punishable by expulsion. If the plagiarism is detected after the degree has been awarded, the degree may be rescinded. The University of Florida has an honor code that defines plagiarism as follows:

Plagiarism - A student shall not represent as the student's own work all or any portion of the work of another. Plagiarism includes but is not limited to:

- 1. Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution.
- 2. Submitting a document or assignment, which in whole or in part is identical or substantially identical to a document or assignment not authored by the student.

Please note that intent is not an element of this kind of violation so it is important to take great care in appropriately citing your work.

Please refer to the <u>UF Honor Code and procedures</u> or the <u>UF Graduate Catalog</u> for more information.

Academic Problems

Time Limit

All work counted toward the MS degree must be completed during the seven years immediately preceding the term in which the degree is awarded. For the PhD, all work must be completed within five calendar years after the qualifying oral examination, or the examination must be repeated.

Unsatisfactory Scholarship

Any graduate student may be denied further registration or removed from the M.S. or Ph.D. programs if progress toward completing the program becomes unsatisfactory to the academic unit, college, or Dean of the Graduate School. Unsatisfactory scholarship is defined as failure to maintain a B average (3.00 truncated) in all work attempted, or failure to meet the expectations of the major professor or supervisory committee in regards to the students' research goals and responsibilities. Graduate students need an overall GPA of 3.00 (truncated) and a 3.00 (truncated) GPA in their major (and in the minor, if a minor is declared) at graduation. Students with less than a 3.00 (truncated) GPA may not hold an assistantship or fellowship.

Repeating Courses

Repeating courses refers only to repetition of the same course where no significant change in content has occurred. It does not include repetition of seminars, special problems, or courses that have a varying content.

With academic unit approval, graduate students may only repeat courses in which they earned failing grades (C-, D+, D, D-, or E). The grade points from both the first and satisfactory attempts are included in the computation of the grade point average. Of course, the student receives credit only when the course is passed. Repeating a course for credit may not be used to resolve an incomplete grade. If enrollment is needed for completion, then auditing the course is the appropriate registration.

Registration Adjustment – Drop/Add

Graduate students may drop a course during the current term until the deadline as stated in the Graduate School Academic Calendar. Students not on appointment must maintain minimum registration when enrolled. Students on appointment must always maintain appropriate registration unless otherwise approved by the Graduate School. Registration adjustments made after the drop/add deadline of the current semester will result in the student having financial liability for all credits, including those dropped or added. This financial liability also applies to students on appointment receiving tuition waivers. Contact the MCS Graduate Advisor for more information.

Procedure for Changing Major Professor

A student may change his/her major professor during the first year upon consultation with the Department Chair and the Graduate Studies Coordinator. Changes during the first year are not unusual and are viewed as a rotation of projects. Students who wish to change major professors after the first year must submit a request in writing to the Department Chair. This request should include the reasons for the change request and indicate that the proposed change has been discussed with both the current and proposed major professors. The Department Chair will meet with the MCS Graduate Oversight Committee to decide on the change.

Additional Student Resources

UF Graduate School Catalog

The UF Graduate Student Catalog, mentioned and linked to many times in this handbook, is extremely useful for UF graduate students. The "resources" section at the end of the graduate handbook lists a number of additional student resources that provide amazing support for graduate students. Some of these services include (but are not limited to):

<u>Career Connections Center</u> (for professional development and career planning) <u>UF Computing Help Desk</u>

<u>UF Editorial Office Application Support Center</u> (for dissertation support)

Counseling and Wellness Center

Disability Resource Center

English Language Support for International Students

Office of Graduate Minority Programs

UF Student Health Care Center

Please take advantage of these services. If you need assistance, please contact the MCS Graduate Advisor. Information for International Students

Information for International Students

The mission of the <u>University of Florida International Center (UFIC)</u> is to enhance the educational experience and environment of UF's students, faculty and staff by promoting a global perspective. The International Center is the liaison with foreign and domestic embassies and consulates and is responsible for maintaining compliance with federal regulations pertaining to international students, faculty and scholars. For more information, contact the appropriate person at UFIC: (352) 392-5323

<u>International Student Services</u> provides services for international students through immigration document preparation, orientation, immigration services, and various workshops. These services include advising international students on academic, immigration, financial, cultural, and personal issues. All new international students are required to check-in with the International Center.

Student Health Insurance Requirement

Student Health Insurance Requirement

Effective Summer B term starting on June 30, 2014, all newly admitted or re-admitted domestic students who are enrolled at least half-time in a degree-seeking program along with all international students are required to purchase the Student Health Insurance Plan unless proof of comparable coverage is provided.

Half time is defined as 6 eligible credit hours for undergraduate students and 5 eligible credit hours (4 credit hours during summer) for graduate students including post-candidacy doctoral students. For students beginning in Summer B term, half-time is considered 3 hours; however, one must be enrolled in 6 hours to receive financial aid. This applies to both domestic and international students.

PhD students entering the MCS program will have their health insurance provided through <u>GatorGradCare</u>. You must fill out a <u>waiver</u> every year to avoid an expensive insurance charge.

For more information, visit the <u>Student Health Insurance Website</u>.

Contact Information for the Student Healthcare Center.

Grading System

The only passing grades for graduate students are A, A-, B+, B, B-, C+, C, and S. B-, C+ and C grades count toward a graduate degree if an equal number of credits in courses numbered 5000 or higher have been earned with grades of B+, A- and A, respectively. Grade points are not designated for S and U grades; these grades are not used in calculating the grade-point average. All letter-graded courses taken as a graduate student, except 1000 and 2000 level courses, are used in calculating the cumulative grade-point average (GPA). Letter grades of C-, D+, D, D- or E are not considered passing at the graduate level, although the grade points associated with these letter grades are in included in grade point average calculations.

The following values are assigned to each grade:

A	4.00 points
A-	3.67 points
B+	3.33 points
В	3.00 points

B-	2.67 points
C+	2.33 points
C	2.00 points
C-	1.67 points
D+	1.33 points
D	1.00 points
D-	0.67 points
E	0.00 points
I	Incomplete, 0.00 points
W	Withdrew, 0.00 points
X	Failure to take Final Examination, 0.00 points
S/U	Satisfactory/Unsatisfactory, not counted

Calculating Grade Point Averages

Grade point averages (GPA) for graduate students are computed on all eligible credits attempted at the 5000 level and above and 3000/4000 level outside the major taken at the University of Florida while in a 7, 8, or 9 classification. Courses receiving grades of S and U are excluded. Courses taken at the 1000-2000 level are excluded. Credits at the 1000-2000 level may not count toward the campus residence requirement or toward the total credits required for a degree. Students must earn an overall GPA of 3.00 (truncated) AND a major GPA of 3.00 (truncated) (also applicable to a minor if elected).

For more information, please review the <u>UF Graduate Student Handbook</u> section on Grading Systems.

Financial Aid

Various forms of financial aid are available to Ph.D. and M.S. Students through the University of Florida Office of Student Financial Aid and Scholarships.

For most financial aid programs at UF, you must:

- Be a U. S. citizen, national, or permanent resident alien.
- Be accepted/enrolled at least half-time in a degree program.
- Make satisfactory <u>academic progress</u> toward a degree.
- Register with the Selective Service Administration, if required to do so.
- Not be in default on a federal or institutional loan or owe a repayment on a previous financial aid award received at UF or other institution.

How to apply for financial aid

Student Financial Affairs Office Contact Information: S-107 Criser Hall

P. O. Box 114025

Gainesville, FL 32611-4025

(352) 392-1275

fax: (352) 392-2861 sfa-help@mail.ufl.edu http://www.sfa.ufl.edu