

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

Graduate Program Handbook 2017-2018

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TABLE OF CONTENTS

WELCOME FROM THE CHAIR OF MICROBIOLOGY AND CELL SCIENCE	3
DEPARTMENT MAIN OFFICE CONTACT INFORMATION	4
GRADUATE FACULTY DIRECTORY AND RESEARCH INFORMATION	4
GRADUATE PROGRAMS OF STUDY	4
PH.D. PROGRAM GENERAL INFORMATION AND DEGREE REQUIREMENTS	5
Application and Admissions Information	5
To-Do list for New Ph.D. Students.....	5
To-do List for Newly Admitted International Students:	6
Applying for Florida Residency	6
Stipend and Tuition Waiver Information for Ph.D. Program	7
Graduate Assistantship Responsibilities.....	8
Selecting a Major Professor.....	8
In order to select a Major Professor, Graduate students should:	9
Supervisory Committee and Plan of Study.....	9
Ph.D. Course Requirements	10
Required Courses	10
Seminar	10
Journal Colloquy.....	10
Supervised Teaching.....	11
Module Courses:.....	11
Elective Courses.....	12
Example Plan of Study	12
Required Examinations	12
Comprehensive Written Preliminary Examination	12
Qualifying Oral Exam.....	13
Admission to Candidacy.....	13
Dissertation.....	13
Official Dissertation Completion and Submission Checklist	13
Final Oral Examination and Dissertation Defense	13
Preparing for Graduation – Ph.D. Program.....	14
Cleared Prior.....	14

COMBINED (4+1) MS/BS DEGREE PROGRAM IN MICROBIOLOGY AND CELL SCIENCE	15
Combined (4+1) MS/BS Degree Admission Requirements	15
M.S. (non-Thesis) Program Requirements (for 4+1 after earning a B.S.)	15
Supervisory Committee	16
M.S. Course Requirements	16
Required Courses	16
Journal Colloquy.....	16
Module Courses:.....	16
Elective Courses.....	17
Plan of Study.....	17
Comprehensive Written Final Examination.....	17
Preparing for Graduation – M.S. Program.....	17
ONLINE MS DEGREE IN MICROBIOLOGY AND CELL SCIENCE	19
Online MS Degree Admission Requirements	19
Online M.S. Degree Requirements:	20
Online M.S. Course Requirements:	20
Regular Track:.....	20
Introductory Track:	20
Elective Courses.....	21
Exam Proctoring:	21
Preparing for Graduation – Online M.S. Program	22
Comprehensive Examination:.....	22
ACADEMIC INTEGRITY.....	23
ACADEMIC PROBLEMS	23
Time Limit.....	23
Unsatisfactory Scholarship	23
Repeating Courses.....	23
Registration Adjustment – Drop/Add.....	24
Procedure for Changing Major Professor.....	24
ADDITIONAL STUDENT RESOURCES	24
UF Graduate School Handbook	24
Information for International Students	25
Student Health Insurance Requirement	25
Grading System.....	26
Financial Aid.....	27

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 [UF Graduate Student Handbook](#) and the [University of Florida Graduate Catalog](#). 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:

Mr. Jonathan Orsini
Student Services Coordinator
352-846-1330
jorsini@ufl.edu
Bldg. 981, Room 1055

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 [find a map](#) 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

[Faculty profiles](#) 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 the majority 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. Tony Romeo
Graduate Coordinator
352-392-2400
tromeo@ufl.edu

Graduate Programs of Study

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

- [PhD in Microbiology and Cell Science](#)
- [Combined \(4+1\) MS/BS Degree Program 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. If a student holds a Master's degree in a discipline different from the doctoral program, 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

1. [Attend New Graduate Student Orientation](#) and the [New Graduate Teaching Assistant Orientation](#)
2. Attend the Microbiology Graduate Teaching Assistant orientation organized by [Dr. Monika Oli](#), Lab Coordinator for Microbiology and Cell Science. The orientation takes place at [the Microbiology building](#).
3. Attend the annual Microbiology Graduate Symposium – The symposium is an overnight function that is required for all students. Lodging will be provided for students by the department. [Contact the MCS Department Main Office for more details](#). The Symposium is generally held on the first weekend before the start of Fall classes each year.

To-do List for Newly Admitted International Students:

1. Receive your I-20: Review the International Student Services website for an [instructions on how to receive your I-20](#).
2. Receive your Visa: Review the International Student Services website for [instructions on how to apply for your visa](#).
3. Complete the [check-in process](#) for new international students.
4. 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. All Ph.D. students that enter the program as a Non-resident are required to apply for Florida residency prior to the start of their 2nd full year (or 4th semester) Students who fail to do so may be liable for out of state tuition after their first year (international students exempt from this requirement). For example, a student that starts in Fall 2017 would be expected to apply for residency for the Fall 2018 semester.

Laws created by the Florida Legislature exclusively control residency reclassification for tuition purposes. For the purpose of 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 [registrar's residency website](#) 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 2016-2017 academic year was \$23,000 for all students accepted into the Ph.D. program, paid bi-weekly at about \$880 per pay period. (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 for 2016-2017](#) were 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 [UF Graduate Student Handbook](#) (follow the link, the handbook will be located on the bottom of the page).

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 Student Handbook](#) 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 class room 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 [UF Graduate Student Handbook](#).

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 over emphasized and, therefore, deserves the careful and immediate consideration of each new student.

In order to select a Major Professor, Graduate students should:

- Schedule meetings (in person or over the phone) with individual faculty members (preferably during the summer, before classes begin) in order to determine which 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](#).
- **REQUIRED:** Select at least two (three at most) faculty members within the department in which the student can complete six-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 members' research and laboratory environment. Discussions with faculty members in the research areas of the student's interest and the [Graduate Studies Coordinator](#) 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, etc.) should contact those faculty members directly before the start of the semester. **All PhD Students are required to complete at least two rotations.**
- New students should select a major professor at the end of their second 6-week research rotation (or earlier if they wish and the faculty member accepts) and no later than the beginning of the second semester of enrollment. Students are expected to start active research in their select 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.
- 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).

- Following the selection of a supervisory committee, a Plan of Study 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. The form can be found on the [MCS website](#).

Please review the [UF Graduate Student Handbook](#) for additional information on the make-up and responsibilities of the supervisory committee.

Ph.D. Course Requirements

Ph.D. students within the department do not register for classes. 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 Graduate Studies Coordinator.

Ph.D. students are required to take 24 credits per year, 9 per semester in the fall and spring, and 6 in the summer (MS Students may opt out of summer coursework). 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 semester (fall and spring). 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 semester (fall and spring), as scheduling permits. 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 or 2 credits, 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:

- [MCB2000L](#) – Microbiology lab for non-science majors
- [MCB3020L](#) – Microbiology lab for non-microbiology science majors
- [MCB3023L](#) – Microbiology lab for microbiology majors

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 2nd 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 [graduate course descriptions](#) 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:

- BSC 6459 – Fundamentals in Bioinformatics – (2 credits)
- MCB 6317 – Molecular Biology of Gene Expression – (1 credit)
- MCB 6417 – Microbial Metabolism and Energetics – (1 credit)

Spring Courses:

- BCH 6740 – Structural Biochemistry – (3 credits)
- MCB 6318 – Comparative Microbial Genomics – (2 credits)
- MCB 6355 – Microbial/Host Defense – (1 credit)
- MCB 6457 – Metabolic Regulation – (1 credit)
- MCB 6772 – Advanced Topics in Cell Biology – (1 credit)

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 [University of Florida Graduate Catalog](#) or the [UF Schedule of Courses](#).

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 in order to graduate:

- Comprehensive Written Preliminary Examination
- Qualifying Oral Examination
- Final Oral Examination and 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. At least five faculty members must be present. 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 [Graduate School Editorial Office](#) 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 [UF Graduate School Handbook](#) (located at the bottom of the page). 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 [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 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 [Graduate School calendar](#). 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. [Click here to see a graduation checklist for all graduate students.](#)

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 [UF Graduate Editorial Office Website](#). A student must meet all of the posted criteria from the [UF Graduate School Handbook](#) to receive approval for Cleared Prior status.

Combined (4+1) MS/BS Degree Program in Microbiology and Cell Science

The combined B.S./M.S. program allows qualified students to earn both their Bachelor's and Master's degrees with 12 credit hours of jointly counted course work. This program is considered a "4/1" because students may be awarded both degrees within a five-year period. This program is only offered for University of Florida Microbiology and Cell Science majors in the College of Agricultural and Life Sciences and the College of Liberal Arts and Sciences.

There is no graduate stipend or TA supplement awarded for this non-thesis program. Combined degree program participants are responsible for all of their fees and tuition out of pocket or via Bright Futures and Florida Prepay. These payment plans only cover the undergraduate fees for courses so the student is responsible for the difference in the undergraduate and graduate fees out of pocket.

The 4+1 B.S./M.S. program in Microbiology and Cell Science requires that 12 credits of graduate level courses (5000 level or above) be taken to fulfill requirements of the B.S. degree program. The 12 credits of graduate level courses are courses used to fulfill *6 credits of the 18 credit B.S. core course requirement. The 12 credits of 5000-level or higher required and elective courses may also be applied to satisfy the M.S. degree requirements.

Combined (4+1) MS/BS Degree Admission Requirements

Students seeking admission to the Combined (4+1) MS/BS Degree Program must meet the following requirements:

- Students must have a 3.2 or higher GPA.
- Students must have completed Organic Chemistry 1 and 2 and MCB 3023 successfully. (3.0 average GPA or higher)
- Students must have a 300 or higher on the General GRE Test
- Students must have 2 semesters remaining before graduation (fall and spring preferred)
- Students must be a UF Microbiology major in the College of Agricultural and Life Sciences or the College of Liberal Arts and Science
- Students must complete a [combined degree request form](#) and submit it to the department for review. This form should be filled out in consultation with the MCS undergraduate advisor.

If a student meets these criteria, they should contact the [MCS undergraduate advisor](#) for more information on how to join the program.

M.S. (non-Thesis) Program Requirements (for 4+1 after earning a B.S.)

A minimum of 30 credit hours beyond the student's acquisition of a Bachelor's degree, in graduate level courses (5000 – 7000) is required. For 4+1 B.S./M.S. degree students, the requirement is 30 credits minus the applicable graduate courses they took while earning their B.S. degree (generally 18 credits). Students must also complete at least 15 credits of Microbiology and Cell Science major coursework as part of the 30 credits required for the degree.

Minimum registration for graduate students is 3 credits in Fall or Spring and 2 credits in Summer; minimum registration for students receiving financial aid may be different. Students on a fellowship, traineeship, or assistantship must be registered appropriately for their appointments (full-time in the MCS department) which is normally 9 credit hours for Fall and Spring semesters and 6 credit hours in the 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.

Supervisory Committee

M.S. students are required to select a committee chair from within the tenure track members of the [MCS faculty](#). The committee chair must be selected before the final semester of graduate study. The committee member will be responsible for conducting the required comprehensive final exam that each student must complete in order to graduate in their final term of study.

M.S. Course Requirements

M.S. students within the department do not register for classes. Contact the [MCS Graduate Advisor](#) to register. M.S. students are expected to register for at least 9 credits fall and spring and 6 credits in the summer. Any deviation from this course load should be discussed with the [MCS Graduate Advisor](#).

Required Courses

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 semester (fall and spring), as scheduling permits. Most tenure-track faculty members in the department will teach a journal colloquy each semester (fall and spring). M.S. students should 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.

Module Courses:

A full list of graduate courses and [graduate course descriptions](#) can be found on the MCS website.

Fall Courses:

- BSC 6459 – Fundamentals in Bioinformatics – (2 credits)
- MCB 6317 – Molecular Biology of Gene Expression – (1 credit)
- MCB 6417 – Microbial Metabolism and Energetics – (1 credit)

Spring Courses:

- BCH 6740 – Structural Biochemistry – (3 credits)
- MCB 6318 – Comparative Microbial Genomics – (2 credits)
- MCB 6355 – Microbial/Host Defense – (1 credit)
- MCB 6457 – Metabolic Regulation – (1 credit)
- MCB 6772 – Advanced Topics in Cell Biology – (1 credit)

Elective Courses

Students are required to complete 30 credits in total to earn a M.S. degree. There are 12 required credits of coursework, and students are expected to sign up for 1 credit of journal colloquy per semester, so students must find elective courses, preferably from within the department of Microbiology and Cell Science, to complete the program. MCS elective courses can be found in the [graduate course listing](#) on the website.

Electives offered outside of Microbiology and Cell Science will require the approval of the [MCS Graduate Advisor](#) and also the outside department offering the course. Students can search for electives using the [University of Florida Graduate Catalog](#) or the [UF Schedule of Courses](#).

Plan of Study

Combined degree student schedules typically vary from student to student depending on the previous coursework completed while at the undergraduate level. All combined degree students should contact the [MCS Graduate advisor](#) for more information on their anticipated plan of study.

Comprehensive Written Final Examination

M.S. students are required to complete a comprehensive final examination in order to graduate with a M.S. non-thesis degree from the University of Florida. It is the responsibility of the student to coordinate the final exam with their supervisory committee member during their final term of graduation. All final submission deadlines can be found at the [Graduate School Editorial Office](#) website. Students who have any confusion on this issue should contact the [MCS Student Services coordinator for](#) more information.

Preparing for Graduation – 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 [Graduate School calendar](#). 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. [Click here to see a graduation checklist for all graduate students.](#)

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 in order to graduate.

Introductory Track:

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

Online MS Degree Admission Requirements

Students should visit the [Online M.S. Degree Program website](#) for instructions on how to apply.

The [admissions requirements](#) for the Online M.S. Degree program are listed below:

- Bachelor's degree (in the sciences)
- Overall GPA, and 3.0 Upper Division GPA ([Rules on calculating GPA](#))
- **Preferred undergraduate courses for applicants:**
 - Biochemistry
 - Organic Chemistry
 - Microbiology
 - Biology
 - Chemistry
- General GRE Test with a minimum score of 300 - If you have earned a graduate or professional degree from an accredited university in the U.S., you are exempt from this requirement and do not need to submit GRE scores
- Students without a preferred science background are welcome to apply and will be reviewed on a case by case basis for admission. Relevant professional experience may substitute for academic coursework.

Additional resources for international applicants or non-degree applicants can be found on the [Online M.S. Degree Program website](#).

Online M.S. Degree Requirements:

A minimum of 30 credit hours (37 credit hours required in introductory track) beyond the student's acquisition of a Bachelor's degree, in graduate level courses (5000 – 7000) is required. Students must complete 20 credits of required coursework (27 credits in the introductory track) and 10 credits of elective coursework. Students must take at least 3 credits in the final fall/spring semester to graduate. 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 in order to graduate. 15 credits must be completed in courses with a MCB, PCB, or BSC course prefix. Students must also satisfactorily complete a comprehensive examination in the last semester of coursework. A full [advising worksheet](#) for the program is available on the [Online M.S. Degree Program Website](#).

Online M.S. Course Requirements:

Regular Track:

MCB 6940 – Career Seminar – 1 credit

BSC 6459 – Fundamentals in Bioinformatics – 2 credits

BCH 5413 – Eukaryotic Molecular Biology – 3 credits

MCB 5252 – Microbiology, Immunology, and Immuno-therapeutics – 4 credits

MCB 5505 – Virology – 3 credits

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 7192 – Infectious Disease Journal Colloquy – 1 credit

GMS 7192 – Advanced Bacteriology Journal Colloquy – 1 credit

MCB 7922 – Host-Microbe Interactions Journal Colloquy – 1 credit

Choose three credits of Required Module Courses:

MCB 6417 – Microbial Metabolism and Energetics – 1 credit

MCB 6317 – Molecular Biology of Gene Expression – 1 credit

MCB 6318 – Comparative Microbial Genomics – 2 credits

MCB 6457 – Metabolic Regulation – 1 credit

MCB 6772 – Advanced Topics in Cell Biology – 1 credit

MCB 6355 – Microbe/Host Defense – 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 6937 Archaea and Biotechnology – 3 credits
MCB 6937 Microbial Applications of Synthetic Biology – 3 credits
MCB 6937 Microbial Diversity – 3 credits
MCB 6937 Advanced Bacterial Genetics – 3 credits
MCB 6937 Bacterial Physiology – 3 credits
MCB 6937 Molecular Genetics – 3 credits
MCB 6937 Human Genomics – 3 credits
GMS 6132 Introductory Gene and Immunotherapy – 2 credits
PCB 5235 Immunology – 3 credits
GMS 6108 Advanced Bacteriology – 3 credits
MCB 6937 Post Translational Modifications in Microbiology – 1 credit

A full [course planning document](#) and a [department module schedule](#) can be found on the Online M.S. website. The next year's department module schedule is updated each summer. For more information, contact the [MCS Online Program'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 as the proctoring service for this program. You will take all of 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 adviser and 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 [Graduate School calendar](#). 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. [Click here to see a graduation checklist for all graduate students.](#)

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 completed a degree applications in any given term. 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. For a good discussion about plagiarism and how to properly cite your sources, please review the UF Graduate Schools [instructional information](#).

Please refer to the [UF Honor Code and procedures](#) or the [UF Graduate School Handbook](#) 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 MS or PhD 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 make a decision on the change.

Additional Student Resources

[UF Graduate School Handbook](#)

The UF Graduate Student Handbook, 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):

[Career Resource Center](#) (for professional development and career planning)

[UF Computing Help Desk](#)

[UF Editorial Office Application Support Center](#) (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 have any confusion, please contact the [MCS Graduate Advisor](#).

Information for International Students

The mission of the [University of Florida International Center \(UFIC\)](#) 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

[International Student Services](#) 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

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 [GatorGradCare](#). Make sure to fill out a [waiver](#) in order to clear your insurance hold or we will not be able to register you at the beginning of the fall semester.

For more information, visit the [Student Health Insurance Website](#).

[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. 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 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
B	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 [UF Graduate Student Handbook](#) 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 Affairs](#).

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 [academic progress](#) 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:

Applying for financial aid at UF begins with the FAFSA (Free Application for Federal Student Aid). Complete the FAFSA at fafsa.ed.gov. You can file a FAFSA as early as January 1st each year. UF's "On-Time" deadline to receive the results of your FAFSA from the federal processor is March 15th. Apply well before March 15th to ensure that the federal processor has time to analyze and send the results of your FAFSA to the financial aid office. Financial aid is awarded on a first come, first served basis so apply as early as possible to be considered for the most, and best aid.

Student Financial Affairs Office Contact Information

S-107 Criser Hall
P. O. Box 114025
Gainesville, FL 32611-4025
Phone: (352) 392-1275
Fax: (352) 392-2861
<http://www.sfa.ufl.edu>