



Department of Cell Biology, Microbiology & Molecular Biology (CMMB)

Graduate Student Handbook

USF and CMMB Policies & Procedures

2010-2011

CMMB, USF

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Introduction

Welcome to the graduate program of the Department of Cell Biology, Microbiology and Molecular Biology (CMMB). We are a comprehensive research and training department located in the College of Arts and Sciences at the University of South Florida. We offer an MS degree in both Microbiology and Cell & Molecular Biology (with a non-thesis option for the latter), along with a Ph.D. in Cell Biology, Microbiology and Molecular Biology. Our graduate program mission is to prepare our students for professional careers in academia, the government or industry in the areas of Cell Biology, Microbiology, and Molecular Biology. The information presented in this document is intended to be a comprehensive list of the departmental policies and regulations of the CMMB graduate degree programs. You are advised to keep a copy of this document throughout your time in our program, and to refer to it often as you progress through your graduate studies. In addition to the information contained within this manual, the University, the College of Arts & Sciences, and the Graduate School have established certain academic requirements that must be met before a degree is granted. While your Major Professor, the CMMB Graduate Director, your thesis advisory committee, the department chairman, and college and graduate school deans are available to assist you in meeting these requirements, it is ultimately your responsibility to be acquainted with all policies, regulations and rules. If the requirements contained within this document, along with those of the University and Graduate School, have not been satisfied, then a graduate degree cannot be awarded. Therefore we ask that you familiarize yourself with the content of this handbook as soon as possible, and should you have any questions at all then please direct them to the CMMB Graduate Director.

Again, we would like to welcome you to our degree program – we are thrilled you have chosen the department of CMMB for your graduate education, and wish you a fulfilling and fruitful graduate education experience!

Important Contact Information

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Graduate Education at USF

Graduate Education at USF is administered at three levels. The **USF Graduate School** (<http://www.grad.usf.edu>) is the hub of graduate education at USF and oversees:

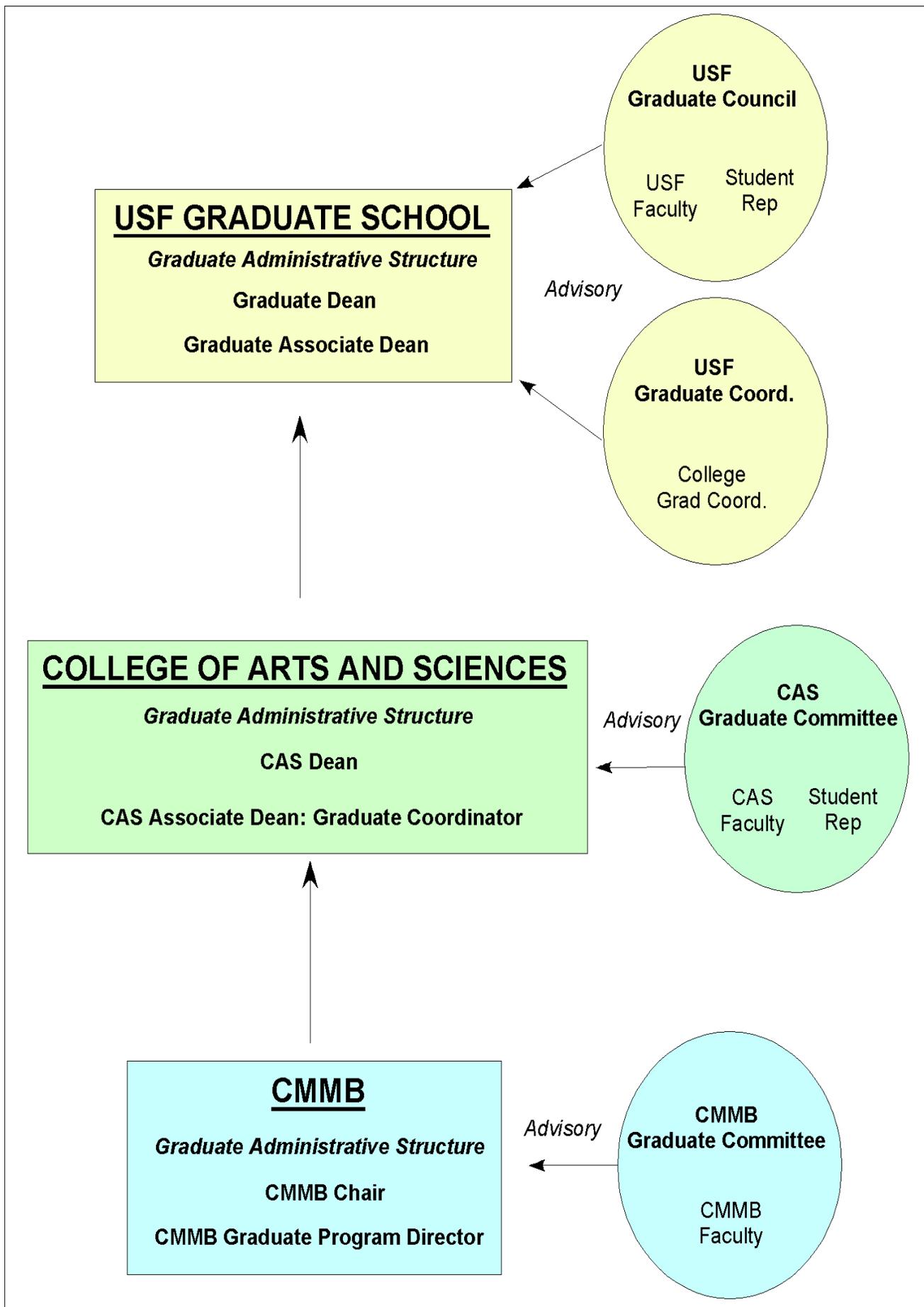
- Compliance of all graduate programs
- Incoming graduate applications
- USF Graduate student policy
- USF graduate fellowships and awards
- Graduate student success initiatives (i.e. workshops, seminars, symposia)
- Graduate student recruitment and marketing
- Thesis and dissertations
- Approval of new graduate programs and courses
- Orientation and commencement
- Graduate student appeals/petitions.

The USF Graduate School is administered by a Dean and an Associate Dean. They work with the USF Graduate Council (a committee made up of USF graduate faculty and two graduate student representatives) to review and approve policies, programs and courses. In addition, the Graduate Deans are advised by a committee made up of the Graduate Coordinators (typically Associate Deans from each college), which meet on a monthly basis to discuss pertinent graduate issues. The USF Graduate School also houses the **Graduate and Professional Student Council (GPSC)**. This is a student group that serves as a voice for graduate students, and meets regularly with the Deans. All graduate students are invited to become members of this group.

The next level of graduate education is administered at the college level. For CMMB, this is the **College of Arts and Sciences (CAS)**. The Associate Dean for UG and Grad studies works with the CAS graduate committee to evaluate and approve programs and courses, evaluate graduate appeals, advise on program development, and assess and recommend graduate policies.

The third level of graduate education occurs at the **Departmental** level. Each Department typically has a faculty member assigned as a Program Director. The Program Director serves as the first point of contact for all program information as well as information on graduate policy and procedures. In CMMB, the Program Director also serves as coordinator of admissions and recruitment, monitors student progress, coordinates the orientation, advises students on CMMB specific issues and is involved in scheduling CMMB graduate courses.

It is important for each student to know all of the key administrators in each of the above units, and to actively participate in workshops and orientations that provide additional information about graduate education and professional development at USF. The Graduate School in particular has a comprehensive website, which provides a wealth of information and resources. In addition, many of the committees that serve advisory rolls to both CAS and the Graduate School have graduate students that serve as members. CMMB students are encouraged to be involved in these important committees. This can be done through the Student Council.



Items Common to All Degrees

Incoming Course/Degree Requirements

It is expected that candidates for graduate degrees in the department of CMMB will have completed courses equivalent to those required for the B.S. in Biology at USF.

Out of State Students

All students admitted to the University of South Florida after fall 2008, and who did not previously reside in the state of Florida for 12 months prior to matriculation, will be considered an out-of-state student for tuition purposes. Should a student under this classification receive financial support (please see below) via a Research Assistantship (RA), or Teaching Assistantship (TA), then they will be considered in-state students for tuition purposes ONLY during the semester(s) of support. At the termination of financial support, such students will revert back to being considered out-of-state students.

Financial Assistance

There are a number of mechanisms available to CMMB graduate students for financial support during their time in our program. For research students it is likely, although not guaranteed, that they will be funded via departmental Teaching Assistantships (TA); or via Research Assistantships (RA) from the research grants of their Major Professor. Departmental TAs are awarded and renewed prior to the start of the fall and Spring Semesters, and are allocated by the CMMB Graduate Committee based on a number of criteria, including budgetary concerns and past performance. Students should be aware that their conduct and performance as a TA will be evaluated by the relevant Laboratory Coordinator (LC) during each semester that they hold such a stipend. Students will receive a copy of this evaluation and will also have an opportunity to meet with the LC to discuss its content. If the LC identifies areas of concerns regarding performance then it is the student's responsibility to make any alterations or changes necessary in order to remain eligible for future TA support. The department of CMMB also receives a variable budget from the college to conduct a program of summer classes, which also allows for some level of TA support. As this budget is often smaller than that of our regular semesters, we can make no guarantees with regards to TA allocations for summer semesters. The CMMB graduate committee will award these stipends during the Spring Semester, and will use prior performance and academic standing measures, along with other considerations, for their allocation. It should be made clear that CMMB departmental policy only allows for 5 semesters of TA support for MS students, and 10 semesters of TA support for PhD students (summer not included). In addition, non-thesis MS students are not usually eligible for TA support. Exceptions to any of these rules require the approval of the CMMB Graduate Committee. Students should be aware that a separate handbook exists for CMMB TAs, which they are required to obtain and familiarize themselves with. In addition to RA and TA support, a number of USF, regional and national fellowships/scholarships are available to CMMB students. We

encourage students to consult with their Major Professor and the CMMB Graduate Office for more information on such funds.

Spring Admission

Where appropriate the department of CMMB will offer admission to its graduate program for students in the Spring Semester. Those students who enter during the Spring Semester will be unable to follow the exact timelines defined elsewhere in this document for the MS and Ph.D. degrees. As such, these students will be required to embark on the core-CMMB graduate degree course requirements beginning in the Fall Semester of their first year. Students will be expected to use their first semester to identify a Major Professor, complete any laboratory rotations, take at least 1 of their structured course requirements, and enroll in BSC6930 Lectures in Contemporary Biology. Students admitted in a Spring Semester will be expected to have formed and held a meeting with their thesis advisory committee by the end of the Fall Semester of their first year.

CMMB Core Graduate Course Requirements

All students in the CMMB graduate program, without exception, will take 3 core courses during their first year. In their first Fall Semester students will enroll in BSC6932 Advances in Scientific Review, and PCB6920 Advances in Cellular & Molecular Biology. In the Spring Semester of their first year (2nd year for spring admits) students will enroll in BSC6932 Advances in Scientific Writing. These courses are in addition to the other program conditions imposed on students by their Major Professor, thesis committee and individual CMMB degree requirements.

Minimum Enrollment Requirements

Students must enroll in 9 credit hours in both fall and spring semesters, and 6 credit hours in summer, to be considered full-time students. These enrollment levels are particularly important for those students funded via RAs, TAs or other University fellowships. In addition, all graduate-degree seeking students must be continuously enrolled, which is defined as completing (with grades) a minimum of 6 hours of graduate credit every three continuous semesters (i.e. 2 hours Spring, 2 Summer, 2 Fall; OR, 3 Fall, 0 spring, 3 Summer; OR 6 Fall, 0 Spring, 0 Summer; etc.). Any student not continuously enrolled will be converted to non-degree seeking status by the Graduate School. Students that fall to NON-DEGREE status must submit a new application to the USF Graduate School. The CMMB Graduate Committee will evaluate any such applications, and determine if the student in question will be readmitted to the program. In such cases, CMMB may require student to undertake additional course work, in order to demonstrate competency, and retake any qualifying examinations. Any student readmitted to the program must to adhere to the policies contained within the Graduate Catalog in the year of readmission; however, the time to degree requirements will be calculated based on the original date of admission. Students taking any

examination in a given semester must be enrolled for a minimum of 2 credit hours of graduate credit. PhD students who advance to candidacy must enroll in at least 2 credits of BSC7980 in EVERY semester thereafter. Those students funded by Graduate Assistantships or Teaching Assistantships are expected to register as full-time students. Students with an approved leave of absence will not be subject to these requirements.

Selection of a Major Professor without Laboratory Rotations

In the first semester of residence, CMMB research graduate students will be required to begin the process of identifying a Major Professor under which to study. Those students admitted with a mentor already agreed upon will enter that professor's laboratory and begin their graduate research.

Selection of a Major Professor with Laboratory Rotations

Students admitted to the CMMB research graduate program without a Major Professor already determined will be assigned to laboratory rotations during their first semester of residency. The details of these rotations should be determined by the student in conjunction with appropriate CMMB Faculty and the CMMB Graduate Director/Committee in advance of their joining the program. Students will submit a minimum of 3 names of CMMB faculty they are interesting in rotating with to the CMMB Graduate Office. Students are required to contact CMMB professors prior to the beginning of their first semester in order to gain agreement for the proposed rotations. The CMMB Graduate Committee will then assign students 2-3 rotations over the course of their first semester. Students are expected to use these rotations to determine a Major Professor. Students should notify the CMMB Graduate Director in writing of their official Major Professor by the end of the first semester of residency. The choice of Major Professor must be a joint agreement between the student and Major Professor. Should the student be unable to select a Major Professor by the end of their first semester in residence, they may petition the CMMB Graduate Committee for additional laboratory rotations, which will be scheduled during their second semester in residence. Students are required to submit the names of at least three faculty members to the CMMB Graduate Director no later than the 1 week prior to the end of the first semester. It is recommended that the student contact the faculty to confirm that they would be interested in having the student rotate. Where necessary, students are expected to use this second semester of rotations to determine a Major Professor. Students should notify the CMMB Graduate Director in writing of this choice by the end of the second semester of residency. The choice of Major Professor must be a joint agreement between the student and Major Professor. Students that are unable to establish a Major Professor by the end of their second semester of residency (including summer) may continue in the program through a 3rd semester (Fall, Spring, Summer or Spring, Summer, Fall) while they either petition to transfer to the non-thesis MS program, or seek graduate education opportunities outside of the CMMB department. Admittance to the non-thesis MS program will be based on academic standing at the time of petition. Those students unable to find a major professor, and who do NOT successfully transfer to the NT-MS degree, will be dismissed from the program. TA support of

students during such a 3rd semester is not guaranteed, and is subject to past performance and the CMMB operational budget.

Laboratory Rotations Requirements

Laboratory rotations will be administered under the BSC 7910 (PhD) or BSC 6910 (MS) class code, with the relevant professor as instructor. Students will be permitted to undertake no more than three different rotations in any given semester, although less is acceptable. In a fall and spring semester, students will only be allowed to register for 1 credit hour of rotation per professor (e.g. a maximum of 3 credit hours). In cases where a second set of rotations are conducted during a summer semester students may enroll in each rotation for as many credit hours as is required (e.g. 3 rotations at 2 credit hours each, 2 rotations as 3 credit hours each, 1 rotation at 6 credit hours). Students are required to consult with each rotation professor in advance of joining their laboratory regarding expectations, requirements and rules. Each professor is responsible for organizing and orchestrating the rotation as they see appropriate. It is expected that students will devote a minimum of a normal working week (M-F, 9-5), minus program and TA requirements, to each rotation. At the conclusion of the rotation students are required to submit a rotation experience document to each rotation professor within 7 days. This document will outline the work conducted during the rotation, demonstrate knowledge of the background theory to the research of each laboratory, and detail any techniques or methods learnt. It should NOT be in list form, but be written in scientific prose, with references where applicable. If this document is deemed unacceptable by the rotation professor then students will have 1 chance at remediating the situation, and will have a 1 week to do so. If the remediated document is submitted late, or still considered unacceptable upon resubmission, then students will receive an Unacceptable (U) grade for that rotation. Students should note that they must report to their next rotation immediately following the conclusion of the preceding one. Completing the previous rotation professor's report or laboratory work is not an acceptable excuse. It should also be clear that rotation faculty can impose additional requirements beyond the research experience document (e.g. lab meeting presentation, attending weekly one-on-one meetings with the professor) and students are expected to fulfill each of these conditions to receive a passing grade for the rotation.

Changing Major Professors

Occasionally it is appropriate for students to change Major Professors. This decision can be made at any time during the student's tenure in the CMMB department, by either the Major Professor or the graduate student. Regardless of who initiates the decision, it is the graduate student's responsibility to find another Major Professor before the beginning of the next semester. If the student has had 1 set of rotations or less at the time of leaving their existing laboratory then they will be offered 1 additional set of rotations, which will be determined after discussion with the CMMB Graduate Director, and appropriate CMMB faculty. If the student in question has already undertaken 2 sets of rotations, then no further rotations will be permitted. Should the new set of rotations not yield a new

Major Professor, or should a new set of rotations not be appropriate, then the student will either have the choice of joining our non-thesis MS program, or pursuing graduate education opportunities outside of the CMMB department. If a graduate committee has been formed at the time a student leaves a laboratory, then all members of the committee should be informed about the change and any possible ramifications. Members of the graduate committee may elect to remove themselves from the committee and/or the graduate student may request changes in the composition of the graduate committee to better support any change in research direction. Any student in good standing in the CMMB department who finds themselves without a Major Professor or committee will be guided and advised, in an ad-hoc manner, by the CMMB Graduate Committee. This is expected to be in only the most extreme of situations, and suffice for matters such as annual reports, or the approval of specific aims for written qualifying examinations. In such situations, the CMMB Graduate Committee will be unable to administer oral examinations or other such benchmark matters usually performed by a student's regular thesis advisory committee. Additionally, students who join a new laboratory during their time in the CMMB program will be eligible, where relevant, to request a delay of oral examination by 1 semester. The student's new PI may further request a second semester of delay in appropriate circumstances by petitioning the CMMB graduate committee. Students may not request a delay of written examination for similar circumstances.

Changing Degree Tracks

In certain circumstances it is appropriate for students to change the degree in which they are enrolled in. For Ph.D. students wishing to change to a MS degree, approval of their Major Professor, advisory committee and the CMMB Graduate Director is required. If a Ph.D. student petitions to change to the MS thesis track as a result of failing their Ph.D. oral qualifying examination twice, then it is acceptable for that student to substitute their successfully completed Ph.D. written qualifying examination for the MS oral qualifying exam. Such a change in degree track is made only with the approval of the CMMB Graduate Committee, and requires the student to be in academic good standing at the time of petition. All changes from the Ph.D. degree to the MS degree will also require the approval of the graduate school. Ph.D. and MS thesis students wishing to voluntarily change to the NT-MS degree must obtain approval of their Major Professor and advisory committee; before petitioning the CMMB Graduate Committee. The unanimous approval of each party is required for such a change. It should be noted that this kind of alteration, once a body of research is underway, is considered most unusual, and approval of such a change is not guaranteed. Furthermore, Ph.D. and MS students CANNOT substitute a previously, successfully completed qualifying examination for the final non-thesis masters oral examination. MS students wishing to change to the Ph.D. degree must obtain the approval of their Major Professor, advisory committee and the CMMB Graduate Director; before applying to the Graduate School. It should be noted that such an application will be considered entirely new, and will have to go through the regular admission evaluation processes. Each instance of a change of a degree program is reliant on the student being in good academic standing at the time of petition, and on them meeting the requirements for admission and completion of each degree.

BSC6930 Lectures in Contemporary Biology

All CMMB students are expected to enroll in the CMMB class BSC6930 Lectures in Contemporary Biology. Ph.D. students are required to take this class at least 4 times and MS (thesis) students are required to take this class at least 3 times. Non-thesis MS students are also eligible to take this course as part of their structured requirements. Students should consult with the timelines section of this document for scheduling, and with the course instructor each semester for the specific course requirements. It is expected that students will continue to attend CMMB departmental seminars upon the completion of their BSC6930 enrollment requirements as part of their scientific learning and development.

Academic Integrity and Dishonesty

The department of CMMB, the USF Graduate School and the University of South Florida hold academic integrity and honesty in the highest regard. Students are individually responsible for being aware of, and complying with, University Regulations and Policies, and must conduct themselves accordingly. Specific information with regards to these policies can be obtained from the USF Graduate School. Students should note that the regulations apply not only to your coursework, but to your research activities as well.

USF Academic Probation

The USF Graduate School will automatically place any student on academic probation if their TOTAL graduate GPA falls below 3.00 (referred to as **P1 probation**). This probation will be effective from the beginning of the following semester (summer included). Students with a graduate GPA below 3.0 for two consecutive semesters (referred to as **P2 probation**) will be prevented from registering for classes without the permission of the CMMB Graduate Committee. Students that have 3 consecutive semesters with a total GPA below 3.00 will be placed on **P3 probation** and will not be able to enroll in any classes unless an approved “Readmit After P3” petition is approved by the USF Graduate School. Notification of probation will be made to the student by the USF Graduate School, and in writing by the CMMB Graduate Director. Students that are placed on probation must schedule an immediate meeting with the CMMB Graduate Director AND Major Professor to construct an academic plan to remove the probation. At the end of each probationary semester, there are several possible outcomes:

1. **Removal of the probation.** Students who have increased their graduate GPA to 3.0 or above will now be considered in academic good standing. This can only be initiated by the USF Graduate School.

2. **Continued probation.** Students whose GPA remains below 3.0, will progress to P2 or P3 status, and will be prevented from enrolling in classes unless approved by the CMMB Graduate Committee (P2), or the USF Graduate School (P3).
3. **Dismissal from the CMMB program.** The CMMB Graduate Committee may proceed with academic dismissal, or recommend to the student voluntary withdrawal, from the CMMB Graduate Program following P1, P2 or P3 probation.

No grade of C- or below will be accepted towards a graduate degree. Should a student find themselves on academic probation upon the completion of their required coursework/classes then they will not be able to graduate. Both the total and major GPA must be above 3.00. If the student is on P1 or P2 probation at the time of intended graduation, they MAY be permitted to enroll in further classes to rectify the situation. The Major Professor and advisory committee will be responsible for determining the makeup and expectations for these additional classes. If a student is on P3 probation at the time of intended graduation, a petition of removal must be filed with the USF Graduate School. Such students will have ONE additional semester to clear the probation.

CAS and CMMB Academic Probation

The CMMB department or the College of Arts & Sciences may also place students on probation for other reasons as appropriate. These include, but are not limited to, a lack of research performance or attaining U grades in CMMB classes. Students placed on probation for these issues will be notified in writing by the CMMB Graduate Director of the specific conditions required for the removal of probation. Students not meeting the conditions set out for them will either be subject to further probationary periods, or dismissed from the CMMB Graduate Program.

Annual Progress Reports

All CMMB students (both thesis and non-thesis), without exception, are required to submit Annual Progress Reports to the CMMB Graduate Office by December 15th of each year. The forms necessary for this are available from the CMMB Graduate Office. Each student is required to demonstrate their progress through the program over the course of the preceding 12 months, and illustrate benchmarks and course requirements achieved. Students are also required to create a series of academic and/or research goals for the coming 12 months. Students are obligated to hold a meeting with their advisory committee (or advisory professor in the case of non-thesis students) to discuss the report, and to obtain unanimous approval and signatures. The report must be distributed to the advisory committee at least 2 weeks before the meeting is scheduled to be held. Once approved, the form must be turned in to the CMMB Graduate Office for the Graduate Directors signature and approval. For those newly admitted students who do not yet have a Major Professor and/or committee should consult with the CMMB Graduate Director for guidance and approval of their annual report.

Graduate Catalogue

In order to remain in compliance with all degree and program requirements, students are expected to adhere to the conditions and regulations laid out in the USF Graduate Catalogue. Students are permitted to select which Graduate Catalogue they chose to comply with, however they may not use those Catalogues produced prior to their admissions. In addition they may not use a catalogue produced in an academic year that they did not complete at least 2 semesters. Students are also expected to comply with all requirements laid out in the CMMB Graduate Student handbook. Students will use the CMMB handbook in place at the time of their admission.

Transfer of Credits

Students are permitted to petition the CMMB Graduate Committee to transfer graduate credit earned at any regionally accredited institution in the United States. The evaluation of such petitions will be made on a case by case basis, and at the sole discretion of the CMMB Graduate Committee. All credit transferred must have a B grade or better, and in no instance will more than 12 graduate hours be permitted for transfer. The transferred credit will be assigned a T grade by the USF Graduate School and will not count towards the institutional GPA. All courses, including any transferred credit, cannot be older than 7 years at the time of graduation for a MS degree, or older than 8 years at the time of graduation for a Ph.D. The majority of credits earned in satisfaction of degree requirements must be earned through instruction offered on the Tampa campus of the University of South Florida.

Leave of Absence

In certain exceptional or unavoidable circumstances it is permissible for a student to take a Leave of Absence (LOA) from their graduate studies. These are granted for a total of up to 2 years, and require the approval of the Major Professor, the CMMB Graduate Director, the College of Arts & Sciences and the USF Graduate School. Any absent time that results from an approved LOA will not count towards the degree program time limits outlined in this handbook. Students must enroll in appropriate graduate credit the first semester following the expiration of LOA or they will fall to NON-DEGREE status, and must reapply to the USF Graduate School for readmission. Returning students should contact the Registrar's Office for instructions on how to reactivate their status. Doctoral candidates must also ensure that their candidacy is reactivated by contacting the USF Graduate School.

Time to Degree and Time Limit Extensions

Students admitted to CMMB MS degrees must complete all degree requirements within 5 years of the original date of their admission. Courses applied to MS degrees cannot be older than 7 years at

the time of graduation. Students admitted to the Ph.D. program must complete all degree requirements within 8 years of the original time of their admission. Courses applied to Ph.D. degrees cannot be older than 8 years at the time of graduation. It is important to note that students who have fallen to inactive status, and been readmitted to the CMMB Graduate Program, must meet the time to degree requirements from the original date of admission, even if those times have been changed since they were originally admitted. Students with an approved LOA do not have the time of their absence counted in the time to degree calculations. Due to extenuating circumstances, a student may require additional time to complete their degree. In such instances the student must complete a “Time Limit Extension” (TLE) Request and submit it to the USF Graduate School. The TLE should only be used if the student is within a few semesters of graduation, and will not be approved for periods of time in excess of 2 years. A student will be permitted to submit only ONE TLE request to USF Graduate School during the course of their degree program. The TLE request requires the submission of an action plan, detailing the benchmarks and timelines needed to complete the degree, and must be signed by the student’s major professor, the CMMB Graduate Director and the CMMB Chairperson. An approved TLE also allows the age of courses to be extended.

Dissertation Abstract

Students are required to submit a thesis abstract (about 350 words) of their dissertation to the CMMB Graduate Office at least 4-6 weeks before their final seminar/defense. This will be circulated to all CMMB faculty.

Dissertation Requirements

The dissertation of all graduate students admitted to a graduate degree program at the University of South Florida must conform to the guidelines of the Handbook for Graduate Thesis and Dissertations available from the Graduate School website. In addition, all students completing a thesis or dissertation are required to submit their final manuscript electronically (as a complete PDF file) to the Graduate School. Required paper documentation must be submitted to the Graduate School Editorial Office (BEH 301 – physical location) by each semester’s posted final submission deadline (available from the CMMB Graduate Office) to be considered for graduation in that semester. Once a thesis or dissertation is ready for submission to the USF Graduate School, the student’s supervisory committee members must sign the Certificate of Approval (COA) form indicating approval of the document. The Certificates of Approval must contain each professor’s original signature – please note that faxed signatures are acceptable, however they must be that of your professor(s). The COA form also contains a Committee Verification signature area that the CMMB Graduate Director must sign, verifying that:

1. The Supervisory Committee listed is accurate.

2. The Committee was appointed and approved following University policies and procedures.
3. The signatures are original (i.e. signed by the committee member personally).

The maximum length of the abstract (to be published in Dissertation Abstracts International) is 350 words. The Graduate School will not accept a dissertation after the first day of the academic term unless the student is enrolled for at least two hours of dissertation credit. The student will be sent an e-mail from the Graduate School indicating approval by the Graduate School. Only after the Dean of the Graduate School has approved the dissertation can the student be certified for the degree.

Submission of Dissertation

Students will be required to submit ALL copies of their dissertation to the CMMB Graduate Office not less than 2 weeks prior to the date of their thesis seminar/defense. Students should NOT submit final copies of their thesis to individual committee members directly. Students are of course welcome to submit pertinent sections of their unfinished thesis to their committee members for review prior to submission. The submitted dissertation must be a completed and final version that is ready for evaluation by the thesis advisory committee. If a student fails to submit all copies of their final dissertation by this 2 week deadline then the seminar/defense will automatically be cancelled, and the student will be responsible for rescheduling it.

Graduation Requirements

There are a number of USF and Graduate School specific deadlines that have to be met in order for a student to graduate. These include, but are not limited to, matters concerning the dissertation/thesis, class registration, seminar defense, credential certification etc. These dates are available from the USF Graduate School website and the CMMB Graduate Office, and it is the student's responsibility to be aware of these dates, and comply with all deadlines and requirements. Be aware that a number of these deadlines occur very early and cannot be waived or altered. In the semester of graduation all Ph.D. students are required to be registered for 2 hours of BSC 7980 Doctoral Dissertation and 1 hour of BSC7936 PhD Seminar. In the semester of graduation all MS thesis students are required to be registered for 2 hours of BSC/MCB 6971 Thesis: Masters and 1 hour of BSC6935 Thesis Seminar. During the semester in which the degree is to be awarded, students must submit to the CMMB Graduate Office a photocopy of the abstract, title page, and committee approval page that has been signed by his/her committee. This must occur at least a week preceding the thesis/dissertation deadline of the USF Graduate School. Upon completion of the degree requirements, the CMMB office will complete the certification for graduation paperwork only after receiving email confirmation from the USF Graduate School

The MS Non- Thesis Degree

CMMB GRADUATE PROGRAM REQUIREMENTS

Concentration in Cell Biology & Molecular Biology

Non-Thesis MS Program Requirements

- Total of 30 credits required (*approved by CMMB*)
- 26 hours must be in structured courses approved by CMMB and include:
 - BSC 6932 (2 hrs) Advances in Scientific Review during Fall Semester of first year
 - PCB 6920 (1 hr) Advances in Cellular & Molecular Biology during Fall Semester
 - BSC 6932 (2 hrs) Advances in Scientific Writing during Spring Semester of first year
 - BSC 6932 (1 hrs) Masters Qualifying Exam during final semester
 - 10 additional hrs of credit must be at 6000-level
 - 15 credits must be in CMMB courses
- The 4 unstructured hours can be met by BSC 6930 (1 hr) Lectures in Contemporary Biology, BSC6910 Directed Research or other courses approved by CMMB
- No more than 6 hours can be at the 4000-level
- Submission of a written scientific review on an approved topic
- Successful completion of a final oral exam at the completion of the structured course work

Selection of an Advisory Professor for Non-Thesis MS Students

All non-thesis-MS (NT-MS) students in the CMMB graduate program must have an advisory professor that they consult without during their tenure in the department. This professor will help with course selection choices, academic advice and will be the instructor of record for the final qualifying exam taken during the student's last semester. The advisory professor will assign the topic for the final qualifying exam, and form and lead the examining committee for this requirement. It is expected that NT-MS students will consult with their advisory professor prior to enrolling in each new semester's classes in order to ensure that they meet departmental and degree requirements. NT-MS students should also meet with their advisory professors during each semester to give an update of progress and to address any concerns. NT-MS students will require the advisory professor to approve and sign any annual reports produced. CMMB professors with active research laboratories will not normally serve as advisory professors to NT-MS students. Any NT-MS student with questions regarding the program or selection of the advisory professor should consult with the CMMB Graduate Director.

Departmental Residence Requirements

- ✓ A minimum of one year of graduate work beyond the Bachelor's degree is required. The student must earn at least 30 post-baccalaureate semester credits.
- ✓ Students must be registered as a full time graduate student for one semester, or two summer sessions (session C).
- ✓ Full-time registration is defined as 9 hours for fall and Spring Semesters, or 6 hours for summer semesters.

NT-MS Degree Coursework Requirements

The CMMB department has specific course requirements for the NT-MS degree, which can be found in the NT-MS program requirements section of this document. Students are required to take a minimum of 30 credit hours, 26 hours of which must be in structured courses. NT-MS students will be required to take the core CMMB graduate program courses in the first year of their degree program, as outlined earlier in this document. Ten additional hours to these core-courses must be completed at the 6000-level. Of the total 30 credit hours, 15 must be completed in CMMB offered courses. No more than 6 hours at the 4000-level are permissible for NT-MS degrees.

NT-MS Degree Masters Qualifying Exam

NT-MS students will be required to enroll in BSC 6932 (1 hrs) Masters Qualifying Exam during their final semester. The advisory professor will be the instructor of record, and will determine the topic of a scientific review in consultation with the student. The review is expected to be a thorough review of the appropriate literature in a critical, synthetic manner. The quality and length of the review should be similar to an article that would appear in the Quarterly Review of Biology, or in Biological Reviews. This paper is due to the advisory professor 6 weeks before the end of the semester in which the student intends to graduate. The advisory professor, in consultation with the student, will form a 3 member examination committee, two of whom (including the advisory professor) must be drawn from CMMB faculty. The 3rd person may be a faculty member from outside of the CMMB department; however their inclusion will require prior approval of the CMMB Graduate Director. A formal meeting of the examining committee will then be held where the student will be subject to the following criteria.

- ✓ The examination is open to all members of the department and must be announced two weeks prior to the presentation.
- ✓ A request for oral examination must be coordinated through the CMMB Graduate Office.
- ✓ The student will be required to defend the submitted review to the unanimous approval of the examining committee in order to pass the examination.
- ✓ An evaluation rubric will be utilized to assign a final grade for the examination.
- ✓ Students must take the examination in the final semester of their degree program.
- ✓ Should a student not pass the oral examination they may retake it, one time only, upon the written consent of the advisory professor.
- ✓ A student who fails the oral examination twice will be dismissed from the program.

The MS Thesis Degrees

CMMB GRADUATE PROGRAM REQUIREMENTS

Concentrations in:

Cell Biology & Molecular Biology

Microbiology

MS Program Requirements (Thesis Based)

- Total of 30 credits required (*including BSC6910, BSC/MCB 6971, BSC6935 & other credits approved by CMMB*)
- Twenty of these credits must be in structured courses
- Ten credits from structured courses MUST BE at 6000-level
- Remaining 10 structured credits can comprise only 6 credits from the 4000-level
- Three lab rotations in first semester where appropriate (3 hrs of BSC 6910 Directed Research credit)
- BSC 6932 (2 hrs) Advances in Scientific Review during Fall Semester of first year
- PCB 6920 (1hr) Advances in Cellular & Molecular Biology during Fall Semester of first year
- BSC 6932 (2 hrs) Advances in Scientific Writing during Spring Semester of first year*
- Minimum of three additional structured courses approved by CMMB (more depending on committee's assessment, 3 hrs each)
- BSC 6930 (1 hr) Lectures in Contemporary Biology at least three times
- BSC6905 / MCB6919 (3 hrs) Independent Study or equivalent
- Submission and Approval of Thesis Proposal
- Successful Completion of an Oral Qualifying Examination
- 8 Credits MS Thesis Research (BSC/MCB 6971)
- Presentation Requirement (1 presentations at national/regional professional meetings)
- Submission of acceptable thesis
- Presentation of the masters seminar (BSC6935)

* For Fall admissions. Students admitted in Spring will take this course in the Spring of their 2nd year.

CMMB GRADUATE PROGRAM TIME LINES

MS Thesis Program

Projected tracking through program in 2.5 years*

**based on successful completion of oral qualifying exam in the time specified, good academic standing and continuation of research during summer sessions*

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- Semester 1 (fall)**
- BSC6910 Directed Research or Laboratory Rotations if required
 - BSC6932 Advances in Scientific Review
 - PCB6920 Advances in Cellular & Molecular Biology
 - 1st Structured Course
 - Submit Annual Progress Report by December 15th
 - **Establish MS Laboratory and Major Advisor**

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- Semester 2 (spring)**
- BSC6910 Directed Research
 - BSC6932 Advances in Scientific Writing (*work on thesis proposal*)
 - BSC6930 Lectures in Contemporary Biology (1)
 - 2nd Structured Course
 - **Form thesis committee (*file paperwork*)**

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- Summer 1**
- BSC6910 Directed Research
 - Work on thesis proposal

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- Semester 3 (fall)**
- BSC6910 Directed Research
 - BSC6930 Lectures in Contemporary Biology (2)
 - 3rd Structured Course
 - **Submit Thesis Proposal to Thesis Committee**
 - **Complete Oral Qualifier by November 15th**
 - Submit Annual Progress Report by December 15th

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- Semester 4 (spring)**
- BSC/MCB 6971 Thesis: Masters
 - BSC6930 Lectures in Contemporary Biology (3)
 - BSC6905 / MCB 6919 Independent Study

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- Summer 2**
- BSC/MCB 6971 Thesis: Masters

-
- Semester 5 (fall)**
- BSC/MCB 6971 Thesis: Masters
 - BSC6935 Thesis Seminar
 - *Defend thesis and graduate*
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Departmental Residence Requirements

- ✓ A minimum of one and a half years of graduate work beyond the Bachelor's degree is required. The student must earn at least 30 post-baccalaureate semester credits. At least one academic year of residence must be on the Tampa campus of the University of South Florida.
- ✓ Students must be registered as a full time graduate student for one semester, or two summer sessions (session C).
- ✓ An academic year's residency is defined as a minimum of 9 hours of enrollment in both the fall and Spring Semesters.
- ✓ It is expected that students will continue their research during summer semesters. Six hours of enrollment are considered full time during this term.
- ✓ Deviations from these rules must be recommended by the student's supervisory committee and approved by the Dean of the Graduate School.

MS Degree Coursework Requirements

The CMMB department has specific course requirements for MS degrees, which can be found in the MS (thesis) timelines and benchmarks section of this document. Students are required to take a minimum of 30 credit hours, 20 hours of which must be in structured courses. Of these twenty hours, 10 must be completed at the 6000-level. To ensure students are in compliance with MS degree requirements, and to facilitate their ability to graduate in a reasonable time, they should consult, where necessary, with their Major Professor and the CMMB Graduate Director as early as possible. There are no specific requirements for the 3 (or more) structured courses that students are obligated to take. The direction and guidance for choosing these graduate courses resides with the Major Professor and thesis committee. It should be noted that MS students are expected to complete their structured course requirements in their 3rd semester (summer not included) so as to allow graduation from our program in a reasonable time. It is not permitted for students to take any of their 3 structured courses in semesters beyond the completion of their oral examination. At the behest of the Major Professor MS students are entitled to substitute an additional structured course for the BSC6905 / MCB 6919 Independent Study requirement. Please note however that students will still be held to the 6000-level course hour requirements above, and will not be permitted to take this additional course after the completion of the oral examination. The Major Professor will be, in addition to these stipulations, responsible for directing the student towards enrollment in any other classes as they see appropriate outside of the core requirements of our graduate program.

Masters Thesis Advisory Committee

- ✓ The major advisor and at least two additional faculty will constitute a student's advisory committee
- ✓ The 2 additional faculty members may be Graduate Faculty from CMMB, or any other relevant department at USF. Please note that the inclusion of committee members from outside CMMB will require approval of the Major Professor and CMMB Graduate Director.
- ✓ The committee must be established within two semesters of entering the program. The responsibility for forming the committee lies with the student; failure to do so may be cause for dismissal.
- ✓ This time limit requirement is in place to ensure that the advisory committee is formed in sufficient time to administer and supervise the thesis proposal and oral qualifying examination.
- ✓ The paperwork required to form or change a committee is available on the CMMB website, and from the CMMB Graduate Office.
- ✓ The Graduate Director, the College Dean, and the Dean of the Graduate School must approve the supervisory committee.
- ✓ All students in the CMMB graduate program are required to hold annual committee meetings at a minimum, in the Fall Semester of each year. Students are encouraged to hold as many additional meetings as is required, and permitted by faculty availability.
- ✓ Students should be aware that their advisory committee exists not only to examine and evaluate them, but to provide help and support during their research careers at USF. Students should make use of each member of their committee as is appropriate and reasonable.

Thesis Proposal

MS students will be required to produce a thesis proposal that is approved by their advisory committee. It will form the basis and starting point for their oral examination (see below). It is expected that students will work on the proposal during their first summer semester (2nd for spring admits), and present it to their thesis advisory committee for evaluation and approval during the oral examination in the Fall Semester of the 2nd year. Spring admitted students are, where appropriate, eligible to present this document to their thesis committee during the spring of their second year.

There are no specific requirements for the content of this proposal; however it must form a cohesive scientific document, with referencing, that outlines the background knowledge, preliminary data and proposed direction of the student's thesis research. It should be prepared in consultation with the Major Professor, and receive unanimous approval from the student's thesis advisory committee.

MS Oral Qualifying Examination

- ✓ CMMB MS students will take their oral qualifying examination, conducted by their thesis advisory committee, during their 3rd semester in the program (summer not included).
- ✓ For students admitted in the fall this will be in their 2nd Fall Semester. Those students admitted in the Spring Semester are permitted to attempt their oral examination in the spring of their 2nd year, assuming that all course work requirements can be completed in time. If this is not possible then spring admitted students will attempt their oral in the fall of their 2nd year.
- ✓ The examination is expected to be conducted after, or in concurrence with, the completion of all formal course work, with the exception of the BSC6930 Lectures in Contemporary Biology and the BSC6905 / MCB 6919 Independent Study requirements.
- ✓ The examination is open to all members of the department and must be announced two weeks prior to the presentation.
- ✓ A request for oral examination must be coordinated through the CMMB Graduate Office.
- ✓ The oral examination will comprise of a formal thesis proposal presentation, followed by a period of questioning by the thesis advisory committee.
- ✓ Students should submit a final version of their thesis proposal to the CMMB graduate office no less than 2 weeks before the proposed oral examination date. The CMMB graduate program assistant will then be responsible for distributing the proposal to the student's advisory committee. If the proposal is not received within 2 weeks of this meeting the proposed oral examination will be cancelled and it will be the student's responsibility to reorganize this meeting.
- ✓ The thesis proposal presentation should be in powerpoint format and should last 15-30 minutes.

Students must give an outline of their work, including relevant background information, preliminary studies and the proposed framework and timeline for their thesis research.

- ✓ Following the presentation the thesis advisory committee will question the student on their thesis proposal.
- ✓ This questioning will then lead into a more detailed period of questioning, focusing on the student's general knowledge of their field of study.
- ✓ A unanimous vote of the examining committee is necessary to pass the examination.
- ✓ An evaluation rubric will be utilized to assign a final grade for the examination.
- ✓ Students must take the examination at least one semester before the thesis is presented.
- ✓ Should a student not pass the oral examination they may retake it, one time only, upon the written consent of the Major Professor and the advisory committee.
- ✓ A student who fails the oral examination twice will either have the choice of petitioning to join the NT-MS program, or pursue graduate education opportunities outside of CMMB.
- ✓ Any deadline extensions for taking the oral examination require the approval of the CMMB Graduate Director.
- ✓ Students must be enrolled for a minimum of two graduate hours during the semester that the comprehensive examination is taken.

Required Enrollment in Thesis Research

- ✓ Following successful completion of the oral qualifying exam MS students must enroll in BSC / MCB 6971 Thesis: Masters when engaged in research, data collection, or writing activities relevant to the MS thesis.
- ✓ Advisors should assign the number of credits in this course appropriate to the demands made on

faculty, staff, and university facilities; but in no event will the number be less than 2 hours per semester.

- ✓ The total number of earned thesis credits cannot be less than 8 for graduation.
- ✓ MS students who have not completed their oral qualifying examination are ineligible to enroll in BSC / MCB 6971. Such students should register in BSC6910 Directed Research.
- ✓ Z GRADES are given for thesis research until the semester the thesis is approved. The Graduate School will give a grade of S during the semester of approval; it will only appear on the transcript for this semester.

Presentation Requirements

Students in the CMMB MS program are required to give one presentations of their research, excluding the Masters seminar. Students should meet this requirement via a poster or oral presentation based on their thesis research at a national/regional professional meeting. The graduate committee must approve the presentation.

CMMB Policy for the MS Thesis Seminar

- ✓ All MS students must be enrolled in 1 hour of BSC 6935 Thesis Seminar during their final semester, in addition to at least 2 hours of BSC/MCB 6971 Thesis: Masters.
- ✓ The thesis seminar is open to the general public and must be announced two weeks prior to the presentation.
- ✓ The thesis seminar must be held at least four weeks before the end of the semester in which the student is to be awarded the degree.
- ✓ Students are required to submit to the CMMB Graduate Office a request for the Masters thesis seminar at least two weeks before the proposed date
- ✓ The CMMB Graduate Director, the Associate Dean of the College of Arts and Sciences, and each of the student's committee members must SIGN the REQUEST FOR THESIS SEMINAR FORM. This forms should contain the date, time and title of the proposed seminar.

- ✓ Students should ensure that the Graduate School holds on record their most recent thesis committee form. Any discrepancies in the makeup of the committee may prove cause for delay of the seminar.
- ✓ Changes to the advisory committee must be completed at least 6 weeks BEFORE the thesis seminar, and all committee members must agree to the change.
- ✓ Changes to a graduate committee will not be approved to facilitate graduation.
- ✓ If the thesis seminar is to be during the fall or spring Semesters then wherever possible it must be scheduled as part of the CMMB departmental seminar program. Students should coordinate with their Major Professor, the Graduate Director and the CMMB departmental seminar committee for the timing of this requirement.
- ✓ Students wishing to graduate during the summer must make arrangements with their graduate committee by the end of the Spring Semester.
- ✓ The final thesis seminar is an important moment in the student's graduate education and is a significant formal event.
- ✓ This examination will be conducted by the student's advisory committee and should comprise of a concise summary of the research completed to satisfy the requirements for the MS degree.
- ✓ Upon completion of the seminar, the general public will be invited to ask questions.
- ✓ Any faculty member of the CMMB Department attending the examination can question the candidate.
- ✓ After completion of public questioning the student's graduate advisory committee will continue questioning the student in private as necessary.
- ✓ Each student is expected to defend his/her research to the unanimous satisfaction of each member of the thesis advisory committee.

The Ph.D. Degree

CMMB GRADUATE PROGRAM REQUIREMENTS

Concentration in Cell Biology, Microbiology and Molecular Biology

PhD Program Requirements

- 90 credits (*including BSC7910, BSC7980, BSC7936 and other credits approved by CMMB*)
- Three lab rotations in first semester where appropriate (3 hrs of BSC 7910 Directed Research credit)
- BSC 6932 (2 hrs) Advances in Scientific Review during Fall Semester of first year
- PCB 6920 (1hr) Advances in Cellular & Molecular Biology during Fall Semester of first year
- BSC 6932 (2 hrs) Advances in Scientific Writing during Spring Semester of first year*
- Minimum of three additional structured courses approved by CMMB (more depending on committee's assessment, 3 hrs each)
- BSC 6930 (1 hr) Lectures in Contemporary Biology at least 4 times
- Preliminary Doctoral Examinations – successful completion
 - Written portion (in the format of a grant proposal)
 - Oral portion
- Submission and approval of Dissertation Proposal
- Seminar Presentation of Research in BSC6930 upon advancement to candidacy (at least once)
- 24 Credits Dissertation Research (BSC 7980)
- Presentation Requirement (2 presentations at national/regional professional meetings)
- Publication Requirement (one research paper submitted for publication to refereed scientific journal by date of the Doctoral Seminar/Defense)
- Submission of acceptable dissertation
- Presentation of the doctoral seminar (BSC7936) and successful defense

* For Fall admissions. Students admitted in Spring will take this course in the Spring of their 2nd year.

CMMB GRADUATE PROGRAM TIME LINES

PhD Program

Projected tracking through program in 5 years*

*based on successful completion of written and oral qualifying exams in the time specified, good academic standing and continuation of research during summer sessions

Semester 1 (fall)	<ul style="list-style-type: none"> • BSC7910 Directed Research or Laboratory Rotations if required • BSC6932 Advances in Scientific Review • PCB6920 Advances in Cellular & Molecular Biology • 1st Structured Course • Submit Annual Progress Report by December 15th • Establish PhD Laboratory and Major Advisor
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Semester 2 (spring)	<ul style="list-style-type: none"> • BSC7910 Directed Research • BSC6932 Advances in Scientific Writing (<i>develop aims of written exam</i>) • BSC6930 Lectures in Contemporary Biology (1) • 2nd Structured Course • Form Thesis Committee (<i>file paperwork</i>)
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Summer 1	<ul style="list-style-type: none"> • BSC7910 Directed Research • Circulate Aims to Committee for Approval • Begin Work on Written Qualifying Exam
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Semester 3 (fall)	<ul style="list-style-type: none"> • BSC7910 Directed Research • BSC6930 Lectures in Contemporary Biology (2) • 3rd Structured Course • Submit Written Qualifier by October 15th • Hold Annual Committee Meeting • Submit Annual Progress Report by December 15th
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Semester 4 (spring)	<ul style="list-style-type: none"> • BSC7910 Directed Research • BSC6930 Lectures in Contemporary Biology (3) • Begin work on Dissertation proposal
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Summer 2	<ul style="list-style-type: none"> • BSC7910 Directed Research • Continue work on Dissertation Proposal
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Semester 5 (fall)	<ul style="list-style-type: none"> • BSC7910 Directed Research • BSC6930 Lectures in Contemporary Biology (4) • Submit Dissertation Proposal • Complete Oral Qualifier by October 15th (<i>Advance to Candidacy, file paperwork</i>) • Hold Annual Committee Meeting • Submit Annual Progress Report by December 15th

Semester 6	<ul style="list-style-type: none"> • BSC7980 Doctoral Dissertation • Give Research Seminar in BSC6930
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<i>Summer 3</i>	<ul style="list-style-type: none"> • BSC7980 Doctoral Dissertation
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Semester 7	<ul style="list-style-type: none"> • BSC7980 Doctoral Dissertation • <i>Annual Progress Report by December 15th</i> • <i>Hold Annual Committee Meeting</i>
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Semester 8	<ul style="list-style-type: none"> • BSC7980 Doctoral Dissertation
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<i>Summer 4</i>	<ul style="list-style-type: none"> • BSC7980 Doctoral Dissertation
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Semester 9	<ul style="list-style-type: none"> • BSC7980 Doctoral Dissertation • <i>Annual Progress Report by December 15th</i> • <i>Hold Annual Committee Meeting</i>
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Semester 10	<ul style="list-style-type: none"> • BSC7980 Doctoral Dissertation • BSC7936 PhD Seminar • <i>Defend thesis and graduate</i>

Departmental Residence Requirements

- ✓ A minimum of three years of graduate work beyond the Bachelor's degree is required. The student must earn at least 90 post-baccalaureate semester credits. At least one academic year of residence must be on the Tampa campus of the University of South Florida.
- ✓ An academic year's residency is defined as a minimum of 9 hours of enrollment in both the fall and Spring Semesters.
- ✓ It is expected that students will continue their research during summer semesters. Six hours of enrollment are considered full time during this term.
- ✓ Deviations from these rules must be recommended by the student's supervisory committee and approved by the Dean of the Graduate School.

Ph.D. Degree Coursework Requirements

The CMMB department does not impose specific requirements on the 3 structured courses that students are obligated to take. The direction and guidance for choosing these graduate courses, and the timing thereof, resides with the Major Professor and thesis committee. It should be noted from the Ph.D. timeline and benchmarks portion of this document that although the required 3 structured classes are recommended to be taken in an uninterrupted fashion, students can elect to take their 3rd structured course in the spring of their 2nd year (3rd year for spring admits) should their Major Professor deem it appropriate. It is not permitted for students to take any of their 3 structured courses in semesters beyond the completion of their oral examination. The Major Professor will also be responsible for directing the student towards enrollment in any other classes as they see appropriate outside of the core requirements of our graduate program.

Doctoral Advisory/Dissertation Committee

- ✓ The major advisor and at least three additional faculty will constitute a student's advisory committee
- ✓ The 3 additional faculty members may be Graduate Faculty from CMMB, or any other relevant department at USF. Please note that the inclusion of committee members from outside CMMB will require approval of the Major Professor and CMMB Graduate Director.
- ✓ The committee must be established within two semesters of entering the program. The

responsibility for forming the committee lies with the student; failure to do so may be cause for dismissal.

- ✓ This time limit requirement is in place to ensure that the advisory committee is formed in sufficient time to administer and supervise the qualifying examinations.
- ✓ The paperwork required to form or change a committee is available from the CMMB Graduate Office.
- ✓ The CMMB Graduate Director, the College Dean, and the Dean of the Graduate School must approve the supervisory committee.
- ✓ All students in the CMMB graduate program are required to hold annual committee meetings at a minimum, in the Fall Semester of each year. Students are encouraged to hold as many additional meetings as is required, and permitted by faculty availability.
- ✓ Students should be aware that their advisory committee exists not only to examine and evaluate them, but to provide help and support during their research careers at USF. Students should make use of each member of their committee as is appropriate and reasonable.

Ph.D. Written and Oral Comprehensive Examinations

Written and oral comprehensive examinations are required for all Ph.D. students in the CMMB graduate program. Students are required to submit their written examination by October 15th of their second year, and undertake their oral examination by October 15th of their third year. Students should note that they must be enrolled for a minimum of two graduate hours during the semester that each comprehensive examination is taken.

Ph.D. Written Qualifying Examination

All students in the CMMB PhD degree program track must complete a written qualifying examination. The requirements of this exam, and its evaluation, are provided below.

I. FORMAT OF EXAM

The exam shall be in the format of a scientific grant proposal, and contain the following sections:

- ✓ Abstract [300 words]
- ✓ Specific Aims [1 pg]
- ✓ Background and Significance of topic [4-5 pgs]
- ✓ Proposed research program (conducted over a 3 year period) [9-10 pgs]
- ✓ Bibliography (no page limit)

The length of the proposal shall be no more than 15 pages (the abstract and bibliography do not count towards the page limit). The font shall be either Times New Roman 12pt or Arial 11pt, and have margins of 0.5 inch at a minimum. Line spacing of 1, or 1.5, is recommended.

II. TOPIC OF THE EXAM

The topic of the exam shall meet the following guidelines:

- The written proposal *cannot be based in the same model organism* that the student will use to carry out their thesis research
- The written proposal *cannot be based on the analysis of the same gene/protein* that the student will investigate during their thesis research
- The written proposal *cannot be based on the analysis of the same pathway* that the student will investigate during their thesis research

III. APPROVAL OF EXAM TOPIC

Students will generate an examination topic, and an approved set of specific aims in BSC 6932 Advances in Scientific Writing during the Spring Semester of their first year (2nd year from spring admitted students). Please see the course instructor and syllabus of this class for specific requirements and deadlines. It is expected that students will consult extensively with their Major Professor, thesis advisory committee, as well as the course instructor during the generation of these aims. Those students who do not yet have a defined Major Professor should consult directly with the course instructor or Graduate Director. At the beginning of the summer semester, immediately following completion of the BSC 6932 Advances in Scientific Writing course, students will be required to submit their final specific aims to their Major Professor. The Major Professor will then circulate the specific aims to the student's thesis committee for a final step of evaluation and approval before the student can begin work on the full written proposal. Approval of these aims should take no more than 2-4 weeks and will be coordinated by the Major Professor. Once final approval is achieved, students may begin work on the full written proposal. Student's should submit their final proposals, in electronic format, to the CMMB Graduate Director by October 15th.

IV. ASSESSMENT OF THE WRITTEN EXAM

Each proposal will be made available to the CMMB faculty. The CMMB Graduate Committee will assign individual proposals to at least a primary and secondary reviewer. A student's Major Professor will serve as the secondary reviewer to each proposal. Under no circumstances may the Major Professor serve as the primary reviewer for their own student's proposal. When appropriate, a third reviewer may also be utilized. An evaluation rubric will be employed to assign each proposal an initial "score". Final grading of the proposals will be carried out during a panel discussion of all faculty involved in the review process. The CMMB Graduate Director will serve as the mediator of the meeting and will be responsible for distributing the graded exams and faculty comments to the students. Students that do not pass the written exam shall be provided one chance to complete the exam successfully. The timeline and format of any remediation will be determined during the panel discussion. Those students who do not successfully pass the written qualifying exam after 1 round of remediation may petition to switch to the MS program (thesis or non-thesis), or seek graduate education opportunities outside the CMMB department. Admittance to either MS program will be determined by the CMMB Graduate Committee based on the student's past performance and academic standing at the time of petition.

Dissertation Proposal

Ph.D. students will be required to produce a dissertation proposal that is approved by their advisory committee. It will form the basis and starting point for their oral examination (see below). It is expected that students will work on the proposal during the spring semester of their 2nd year (3rd for spring admits), and present it to their thesis advisory committee for evaluation and approval during the oral examination in the Fall Semester of their 3rd year. There are no specific requirements for the content of this proposal; however it must form a cohesive scientific document, with referencing, that outlines the background knowledge, preliminary data and proposed direction of the student's dissertation research. It should be prepared in consultation with the Major Professor, and receive unanimous approval from the student's thesis advisory committee.

Ph.D. Oral Qualifying Examination

- ✓ CMMB Ph.D. students will complete their oral qualifying examination, conducted by their thesis advisory committee, by October 15th of their second year.
- ✓ The examination is expected to be conducted after the completion of all formal course work, with the exception of the BSC6930 Lectures in Contemporary Biology requirement.
- ✓ The examination is open to all members of the department and must be announced two weeks

prior to the presentation.

- ✓ A request for oral examination must be coordinated through the CMMB Graduate Office.
- ✓ The oral examination will comprise of a formal dissertation proposal presentation, followed by a period of questioning by the thesis advisory committee.
- ✓ Students should submit a final version of their dissertation proposal to the CMMB graduate office no less than 2 weeks before the proposed oral examination date. The CMMB graduate program assistant will then be responsible for distributing the proposal to the student's advisory committee. If the proposal is not received within 2 weeks of this meeting the proposed oral examination will be cancelled and it will be the student's responsibility to reorganize this meeting.
- ✓ The dissertation proposal presentation should be in powerpoint format and should last 15-30 minutes. Students must give an outline of their work, including relevant background information, preliminary studies and the proposed framework and timeline for their dissertation research.
- ✓ Following the presentation the thesis advisory committee will question the student on their dissertation proposal.
- ✓ This questioning will then lead into a more detailed period of questioning, focusing on the student's general knowledge of their field of study.
- ✓ A unanimous vote of the examining committee is necessary to pass the examination.
- ✓ An evaluation rubric will be utilized to assign a final grade for the examination.
- ✓ Students must take the examination at least one semester before the dissertation is presented.
- ✓ Should a student not pass the oral examination they may retake it, one time only, upon the written consent of the Major Professor and the advisory committee.

- ✓ A Ph.D. student who fails the oral examination twice will either have the choice of petitioning to join the MS program (thesis or non-thesis), or pursue graduate education opportunities outside of CMMB.
- ✓ Any deadline extensions for taking the oral examination require the approval of the CMMB Graduate Director.

Admission to Candidacy

- ✓ Students in the CMMB Ph.D. degree program are expected to qualify for admission to candidacy by the end of their 5th semester (not including summer; 6th semester in the case of spring admits).
- ✓ This requires the doctoral student to have successfully completed their written and oral portions of the qualifying examination, along with all coursework and program specific requirements.
- ✓ Admission to candidacy is only granted once the advisory committee certifies the student has successfully completed these obligations and has demonstrated the qualifications necessary to successfully complete the requirements of the Ph.D. degree.
- ✓ Students must submit an admission to candidacy form, signed by the Major Professor and the Graduate Director, to the CMMB Graduate Office.

Departmental Seminar Requirement

Each Ph.D. student admitted to candidacy is expected to give at least 1 seminar in the CMMB departmental seminar series. This seminar will be during the Spring Semester of their third year (4th for spring admits), and will be based on the student's approved thesis proposal. Seminars are expected to be in PowerPoint format, and should last from 30-45 mins, allowing at least 15 minutes at the conclusion for questions from the audience. Students should coordinate with their Major Professor, the Graduate Director and the CMMB departmental seminar committee for the timing of this requirement during the semester preceding the seminar. It should be noted that the departmental seminar CANNOT be used to fulfill 1 of the 2 presentations at regional/national meetings, or final oral defense requirements.

Required Enrollment in Dissertation Research

- ✓ Following admission to candidacy, a graduate student in the CMMB Ph.D. program must enroll

in BSC 7980 Doctoral Dissertation when engaged in research, data collection, or writing activities relevant to the doctoral dissertation.

- ✓ Advisors should assign the number of credits in this course appropriate to the demands made on faculty, staff, and university facilities; but in no event will the number be less than 2 hours per semester.
- ✓ The total number of earned dissertation credits cannot be less than 24 for graduation.
- ✓ Students not admitted to candidacy are ineligible to enroll in BSC 7980. Prior to admission to candidacy, registration should be in BSC7910 Directed Research.
- ✓ Z GRADES are given for Dissertation Research until the semester the dissertation is approved. The Graduate School will give a grade of S during the semester of approval; it will only appear on the transcript for this semester.

Presentation & Publication Requirements

Students in the CMMB Ph.D. program are required to give two presentations of their research, excluding the doctoral seminar and defense, and any departmental seminar the student is obligated to give as part of the program requirements. Students should meet this requirement via poster and/or oral presentations based on their dissertation research at national/regional professional meetings. The graduate committee must approve the presentation. Students in the CMMB Ph.D. program are also required to have at least one manuscript submitted for publication to a peer-reviewed scientific journal by the date of the Doctoral Seminar and Defense. The paper may be sole or co-authored, but must be based on the dissertation research. The graduate committee must approve the journal to which the paper is submitted.

CMMB Policy for Doctoral Seminar and Defense

- ✓ All doctoral students must be enrolled in 1 hour of BSC 7936 Ph.D. Seminar during their final semester, in addition to at least 2 hours of BSC 7980 Doctoral Dissertation.
- ✓ The defense/seminar is open to the general public and must be announced two weeks prior to the presentation.
- ✓ The dissertation defense examination must be held at least four weeks before the end of the semester in which the student is to be awarded the degree.

- ✓ Students are required to submit to the CMMB Graduate Office a request for the final oral defense of the Ph.D. degree at least four weeks before the proposed seminar date
- ✓ The CMMB Graduate Director, the Associate Dean of the College of Arts and Sciences, and each of the student's committee members must SIGN the REQUEST FOR ORAL DEFENSE FORM. This forms should contain the date, time, title of the proposed defense seminar and the name of the Chair of defense.
- ✓ Students should ensure that the Graduate School holds on record their most recent thesis advisory committee form. Any discrepancies in the makeup of the committee may prove cause for delay of the defense.
- ✓ Changes to the Ph.D. committee must be completed at least 6 weeks BEFORE the Ph.D. final dissertation examination, and all committee members must agree to the change.
- ✓ Changes to a graduate committee will not be approved to facilitate graduation.
- ✓ If the Ph.D. defense seminar is to be during the fall or Spring Semesters then wherever possible it must be scheduled as part of the CMMB departmental seminar program. Students should coordinate with their Major Professor, the Graduate Director and the CMMB departmental seminar committee for the timing of this requirement.
- ✓ Students wishing to graduate during the summer must make arrangements with their graduate committee by the end of the Spring Semester.
- ✓ The final Ph.D. Oral Examination is the culmination of the student's graduate education and is a significant formal event.
- ✓ This examination will be conducted by the student's advisory committee, but shall be chaired by a senior and distinguished scholar, appointed by the Dean of the Graduate School.
- ✓ This chair may not be a member of the student's advisory committee or any member of the CMMB faculty.
- ✓ The defense should demonstrate dissertation and mastery of the student's general field of research, as well as a grasp of the fundamental principles of biology, and how they apply to the student's dissertation research.

- ✓ The defense/seminar should comprise of a concise summary of the research completed to satisfy the requirements for the Ph.D. degree.
- ✓ Upon completion of the defense/seminar, the general public will be invited to ask questions.
- ✓ Any faculty member of the CMMB Department attending the examination can question the candidate.
- ✓ After completion of public questioning the student's graduate advisory committee will continue questioning the student in private as necessary.
- ✓ Each student is expected to defend his/her research to the unanimous satisfaction of each member of the thesis advisory committee.
- ✓ Following a successful oral defense, the Major Professor should bring the original SUCCESSFUL DEFENSE FORM to the CMMB Graduate Director for approval and processing. This form will must bear the original signatures of each member of the thesis advisory committee.

Chair of the Ph.D. Defense Examination Committee

- ✓ The scholar who chairs the examination is expected to be a senior and distinguished member of the academy
- ✓ The chair will be appointed following approval by the Dean of the Graduate School, and may not be a member of the student's dissertation committee, or of the department or program in which the degree is sought.
- ✓ If a faculty member from USF is to be Chair of the exam they must be a fully credentialed member of the CMMB Graduate Faculty.
- ✓ If the chair is from another institution, this individual needs to be credentialed through the CMMB Department. As such the CMMB Graduate Office will require a copy of the outside Chair's CV at least 10 weeks before the proposed seminar date.
- ✓ A memo from the major advisor to the Graduate Director requesting an examining chair is required.